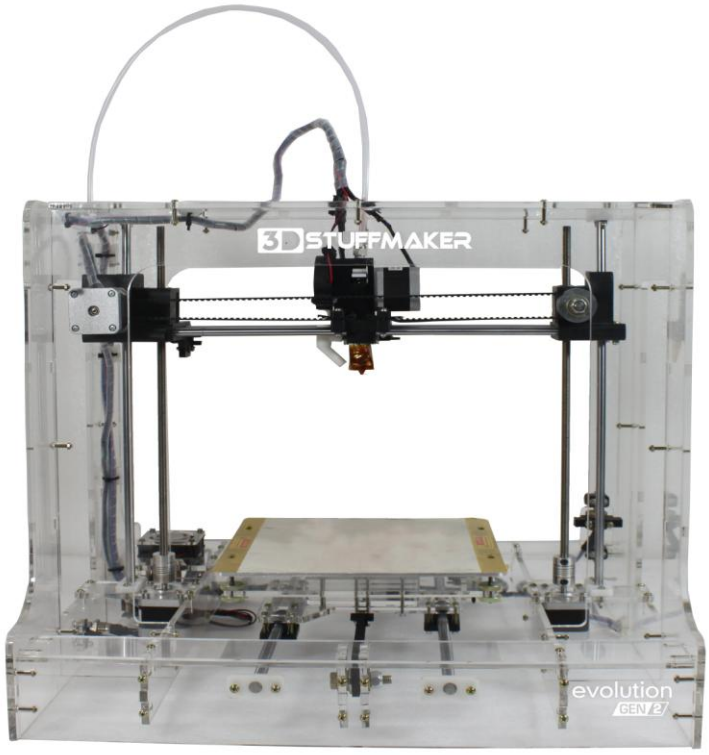
3D STUFFMAKER evolution PRO

OPERATIONAL MANUAL



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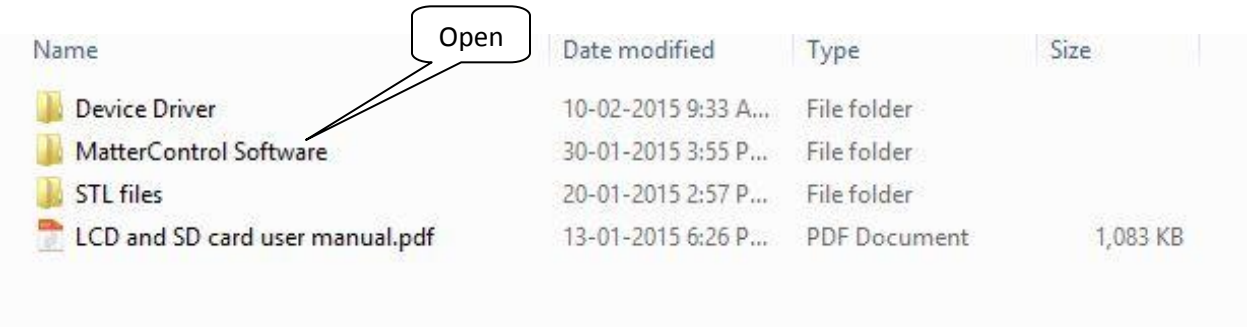
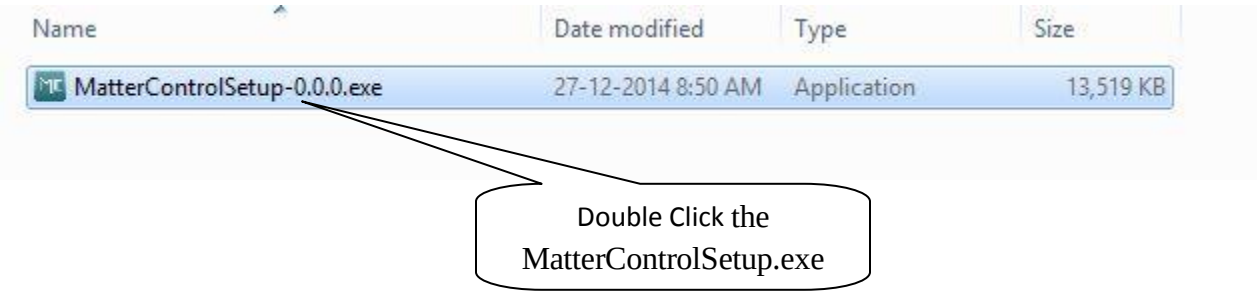
1.Installing Matter Control Software

Step 1: Insert CD and open "Matter Control Software" folder.



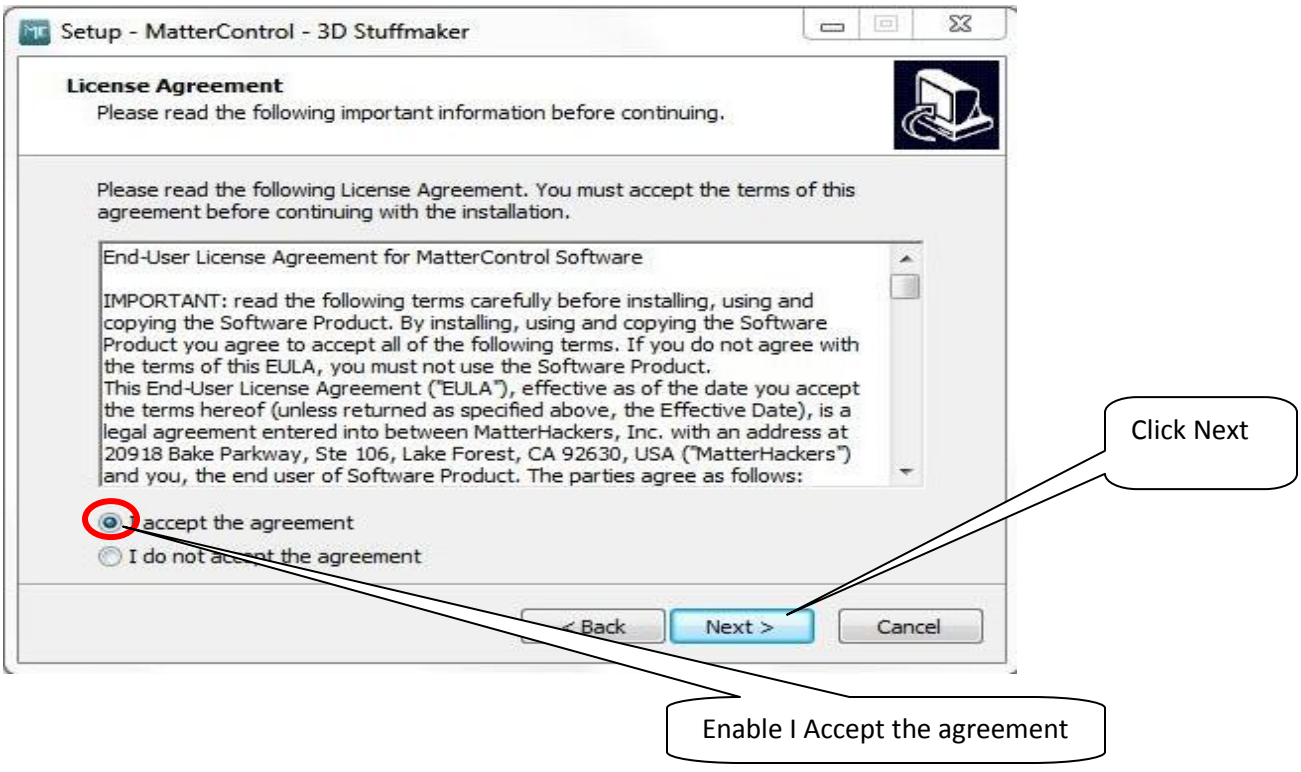
Step 2: Double click "MatterControlSetup.exe".



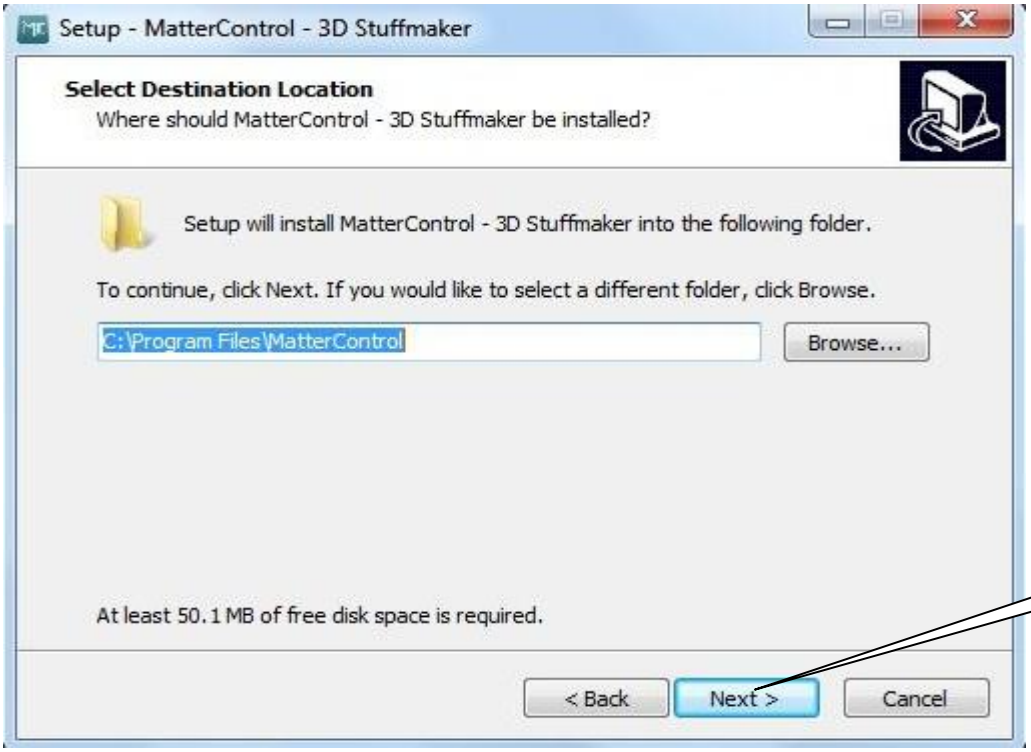
Step 3: Click "Run".

Step 4: Set up wizard will pop out. Click "Next".

Step 5: Click "I accept the agreement" and "Next".

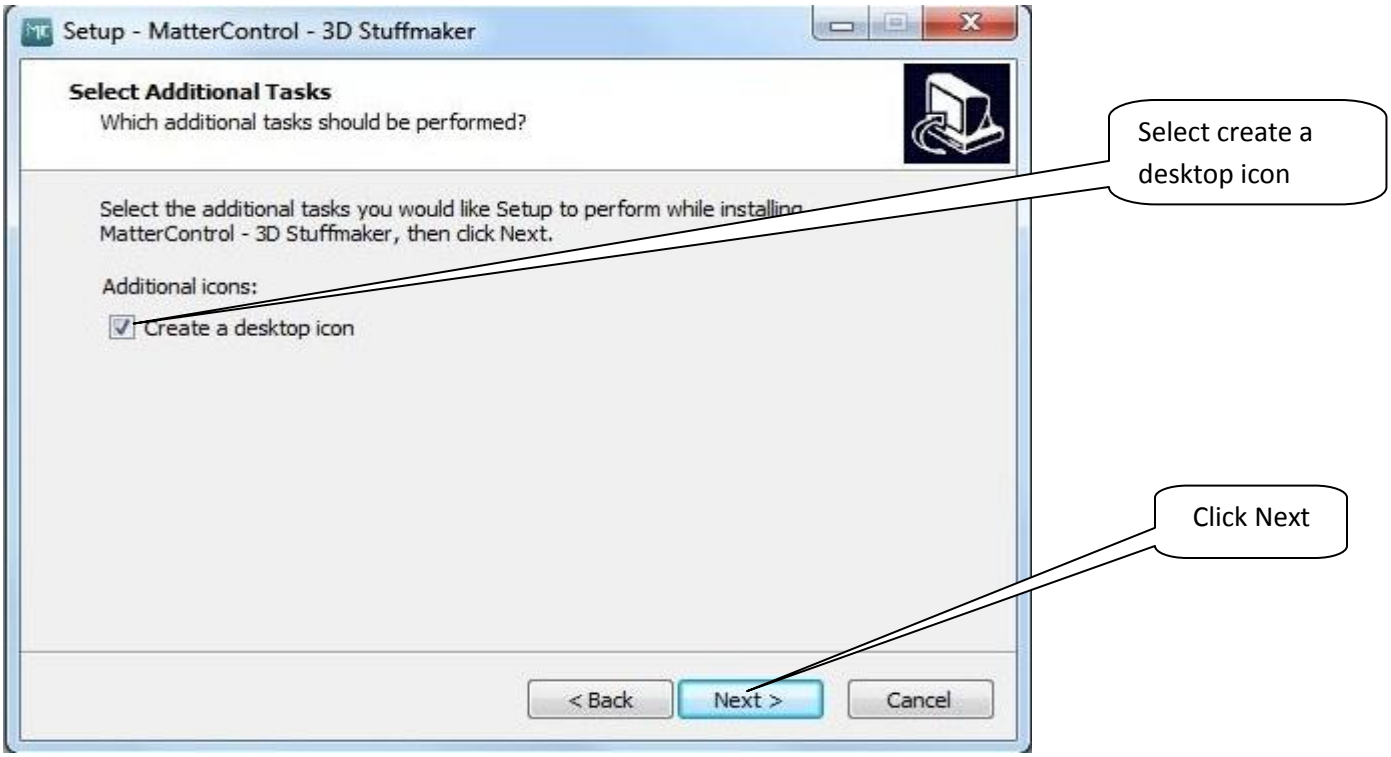


Step 6: Click "Next".

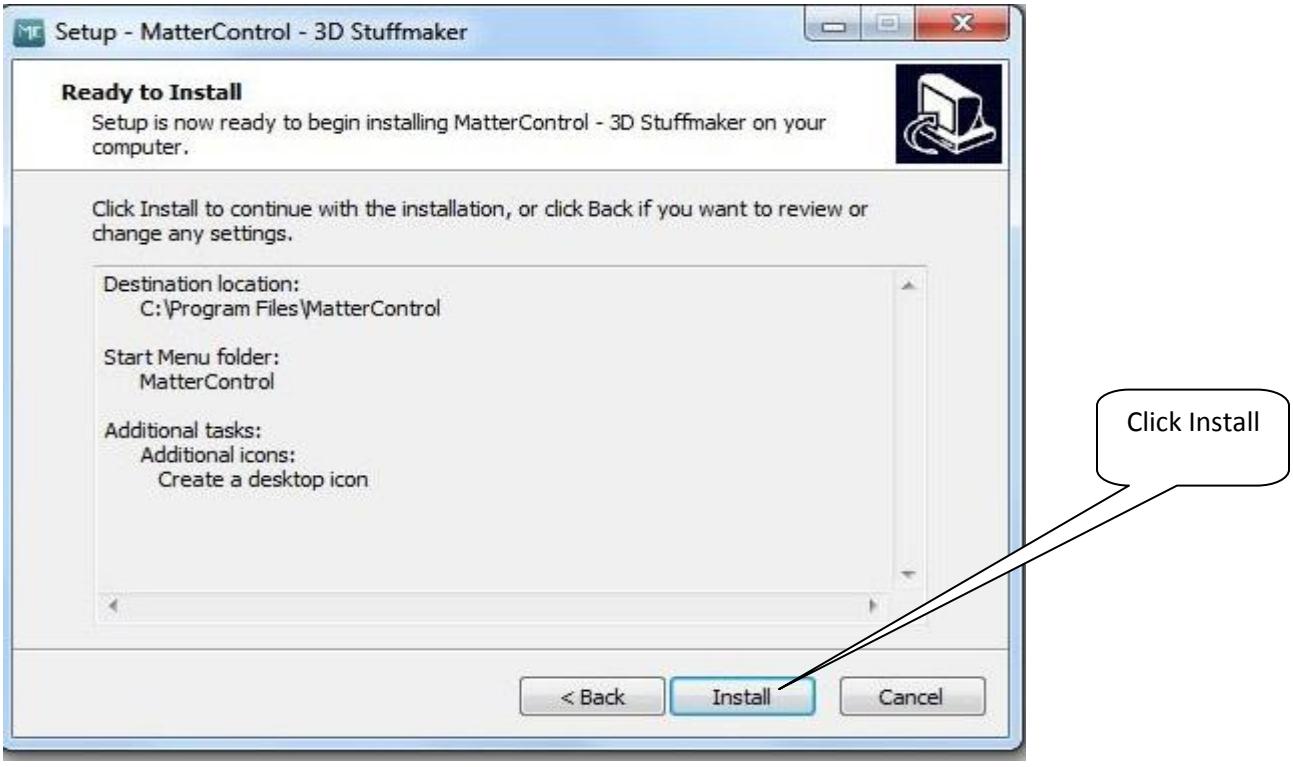


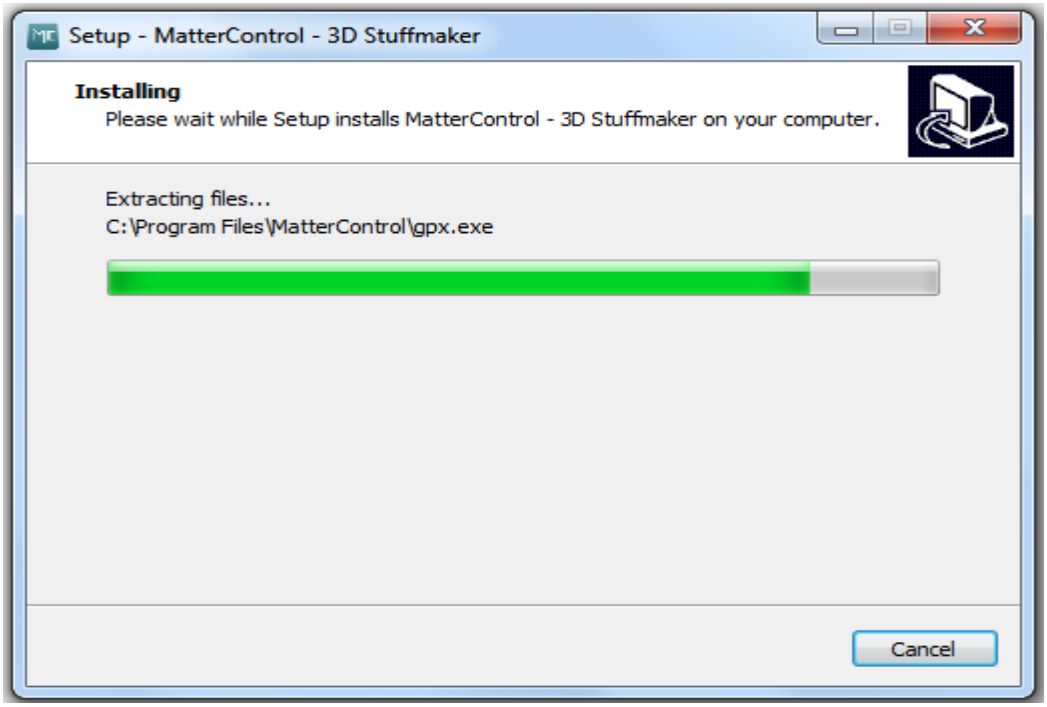
Step 7: Click "Next".

Step 8: Click "Next".



Step 9: Click "Install".

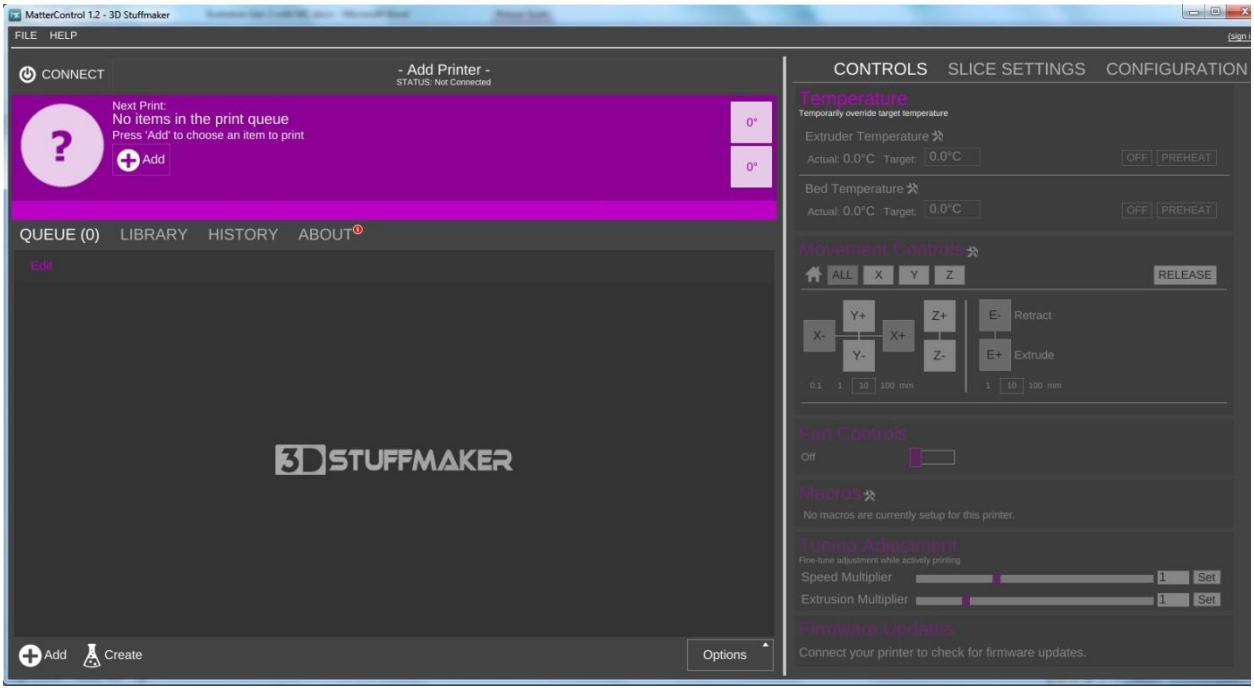




Step 10: Click "Finish".

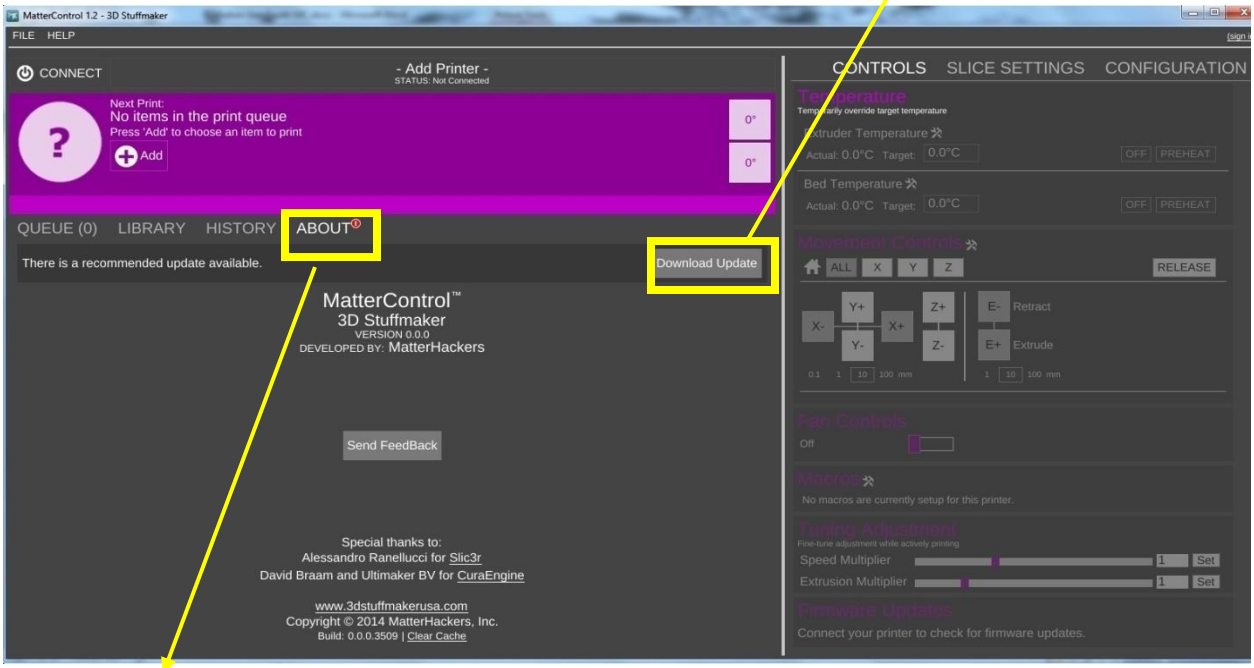
- Desktop shortcut icon will be created and you can start the program by clicking.

Step 11: Double click "Matter Control" desktop icon. Now printer tool kit main user interface will be opened.

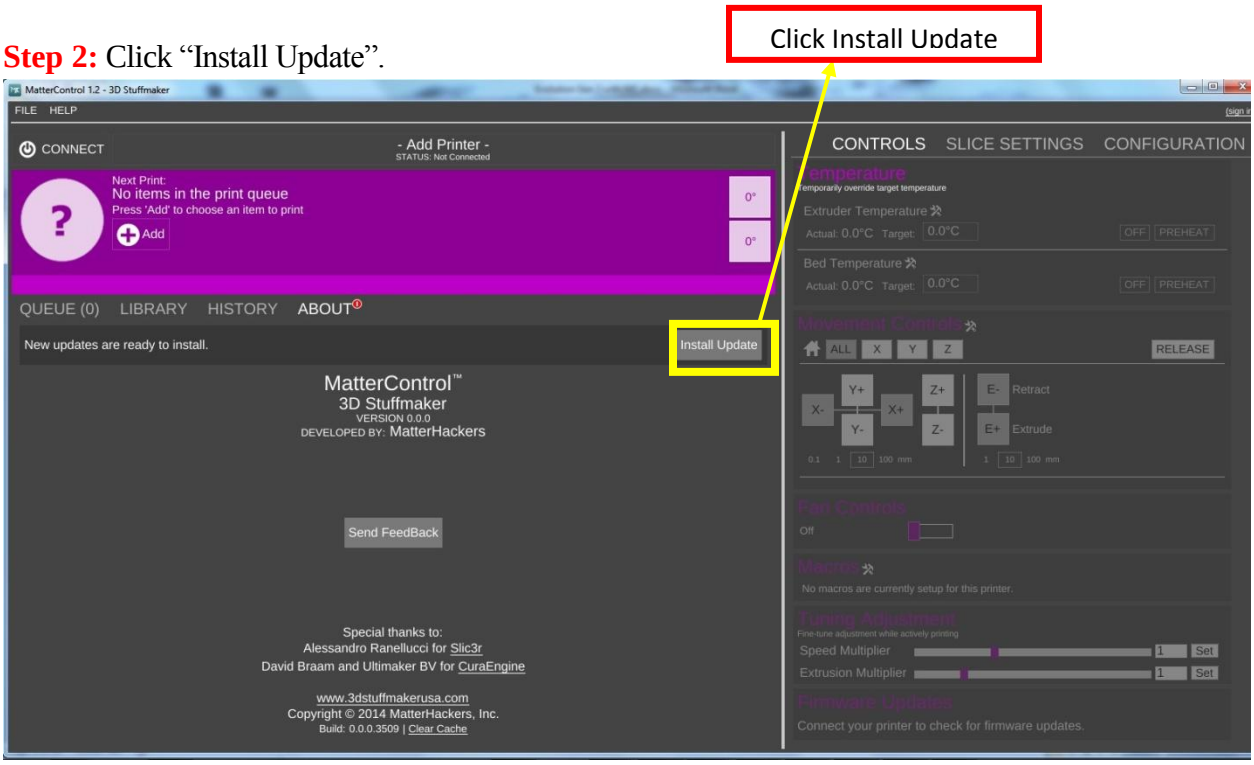


2.Downloading Updated Software

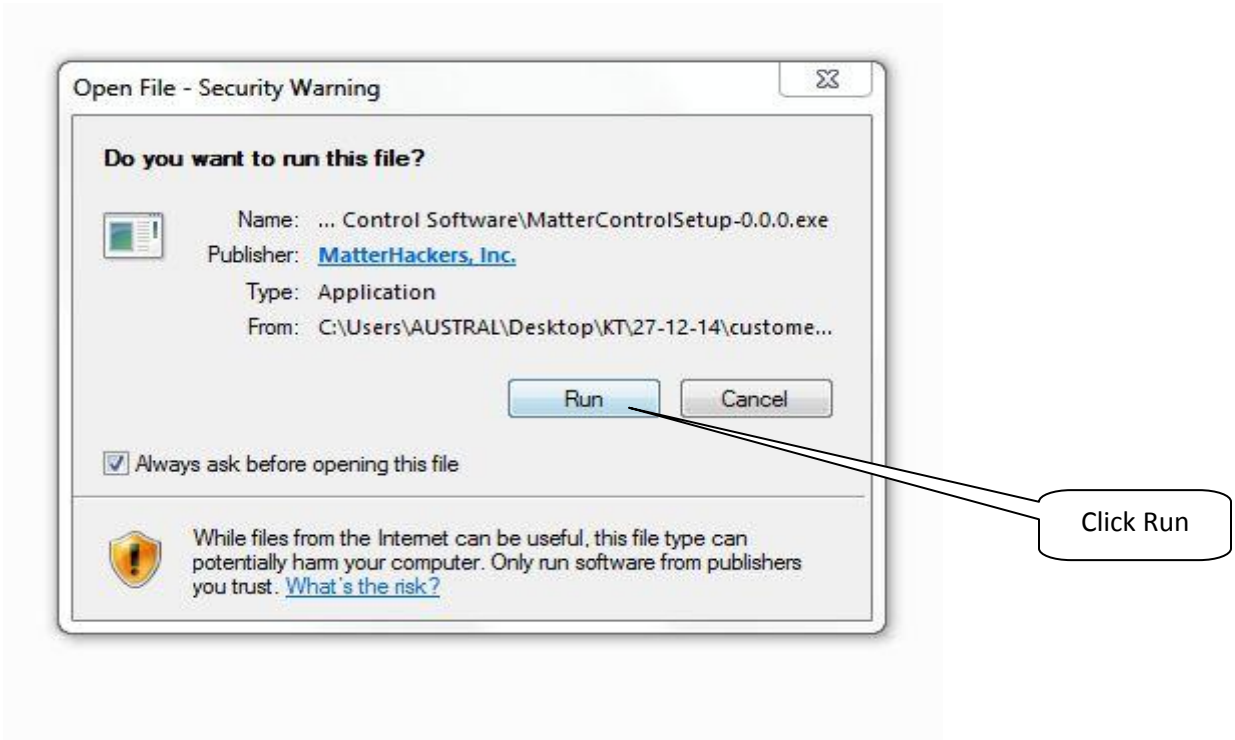
Step 1: Click "About". And then Click "Download Update".



Step 2: Click "Install Update".

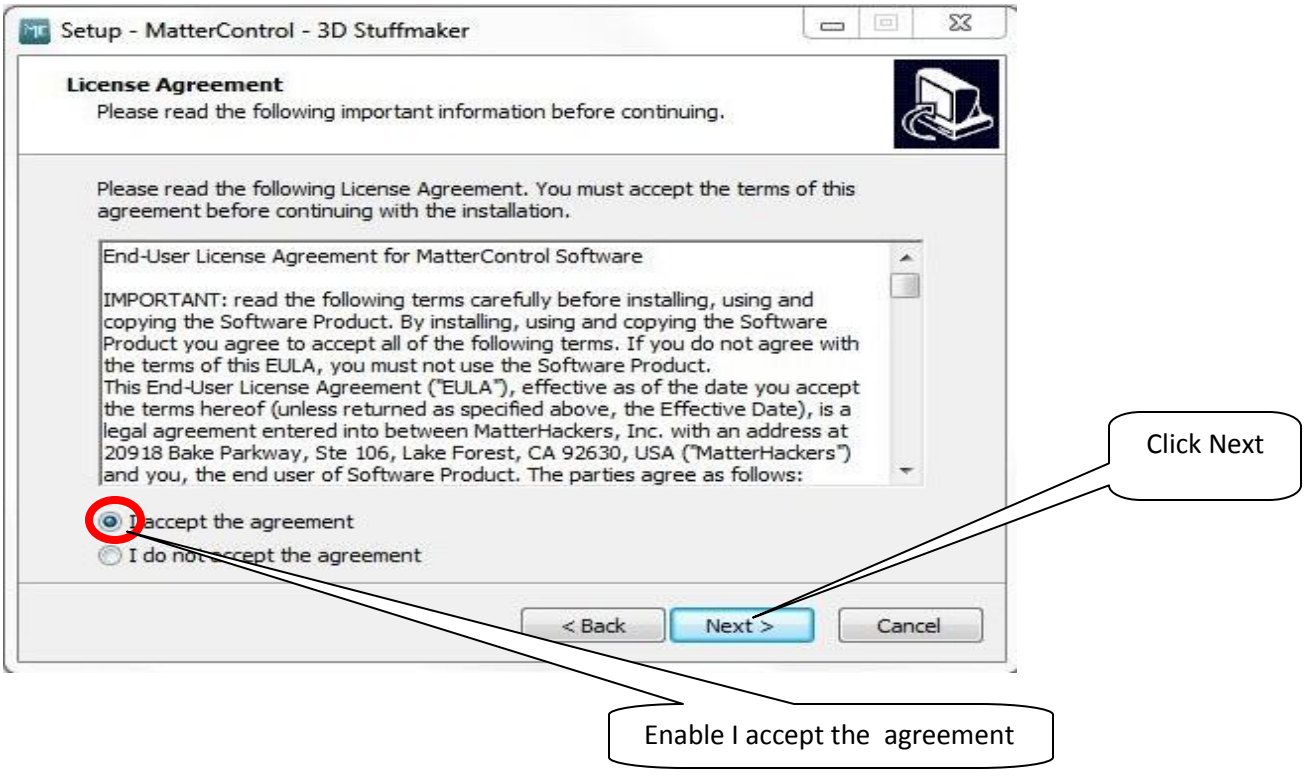


Step 3: Click "Run".

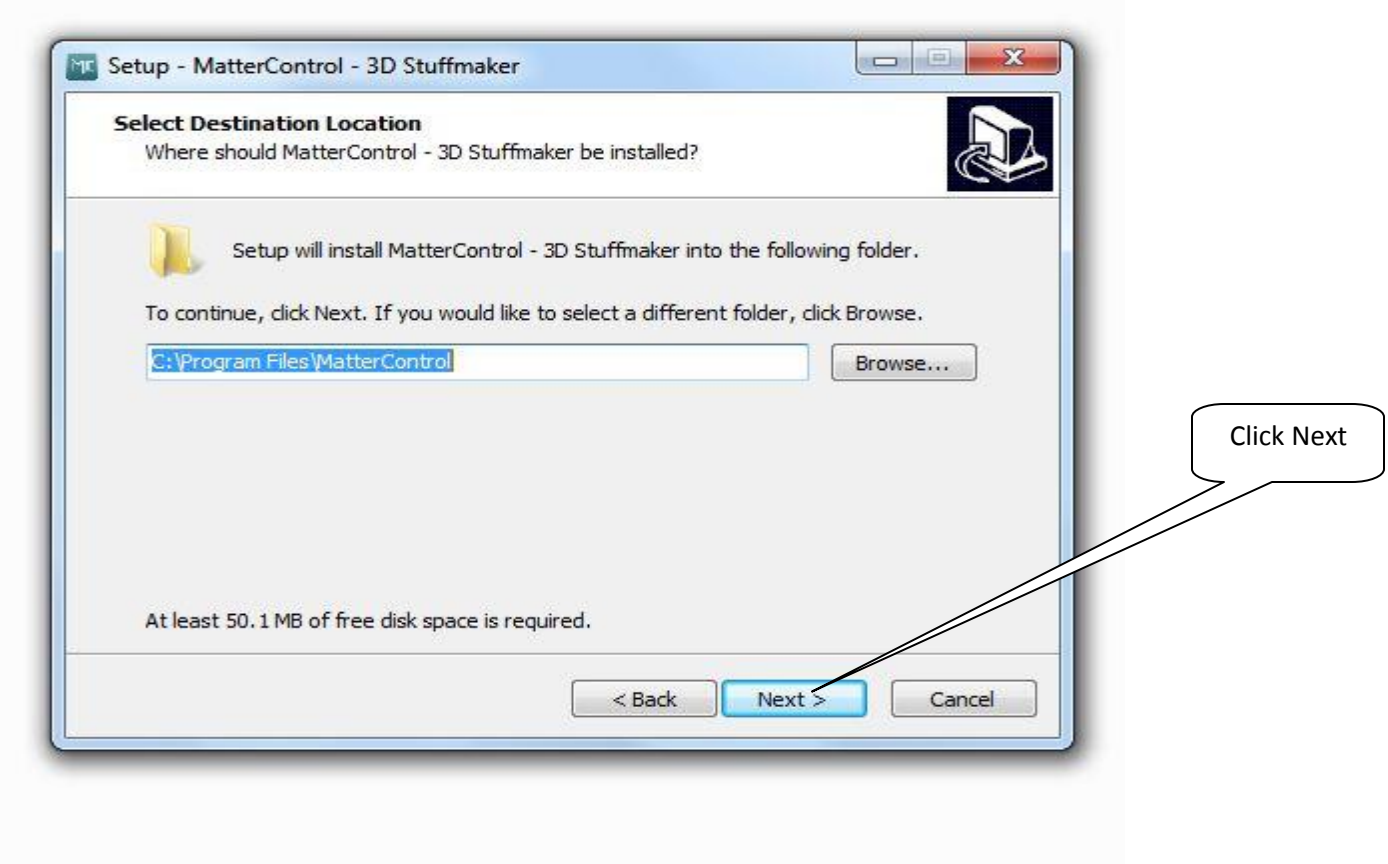


Step 4: Set up wizard will pop out. Click "Next".

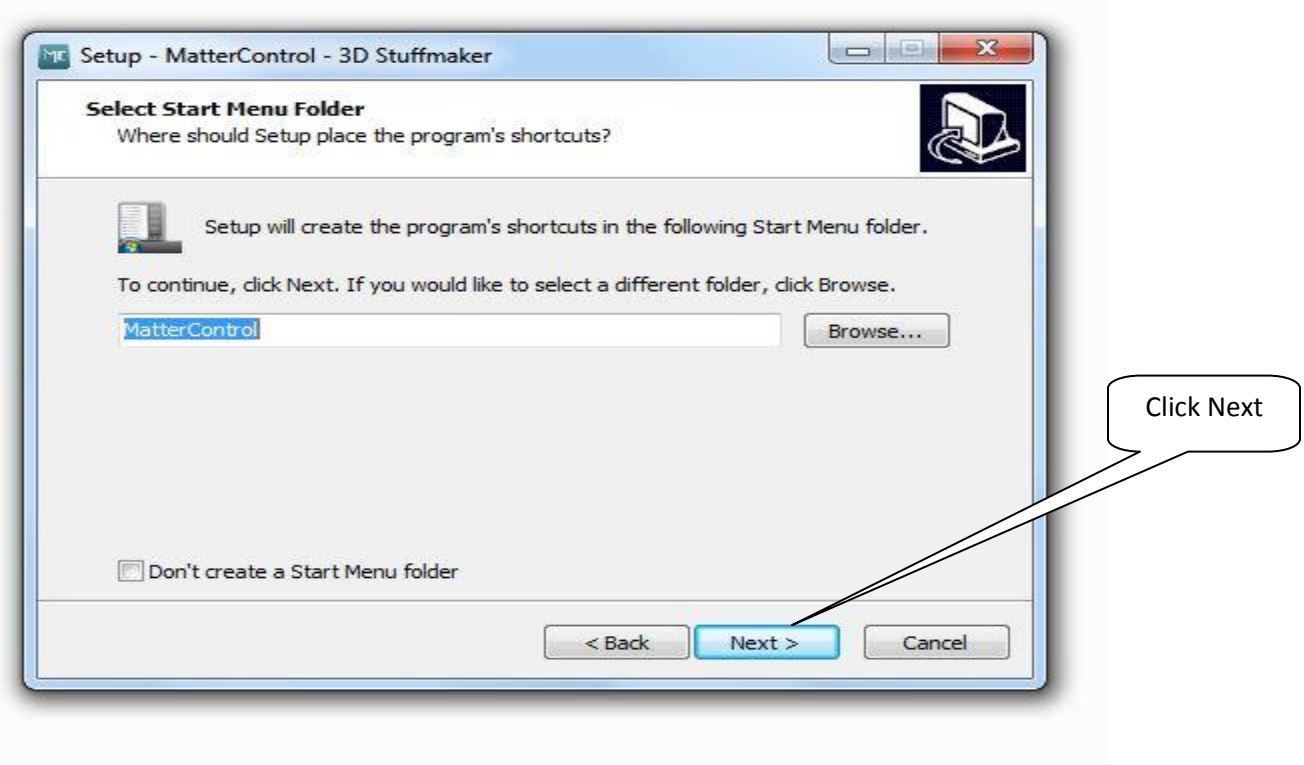
Step 5: Click "I accept the agreement" and "Next".



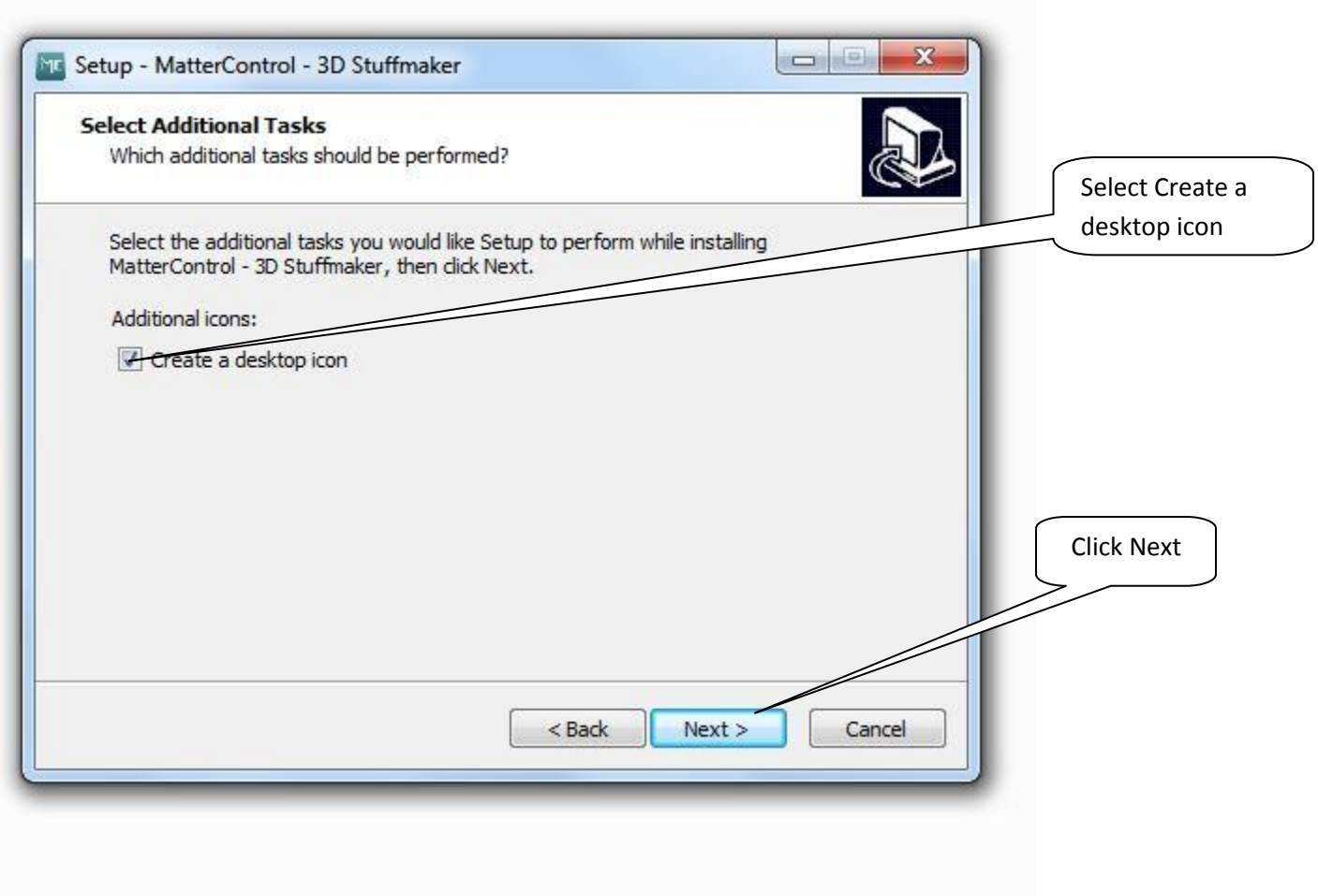
Step 6: Click "Next".



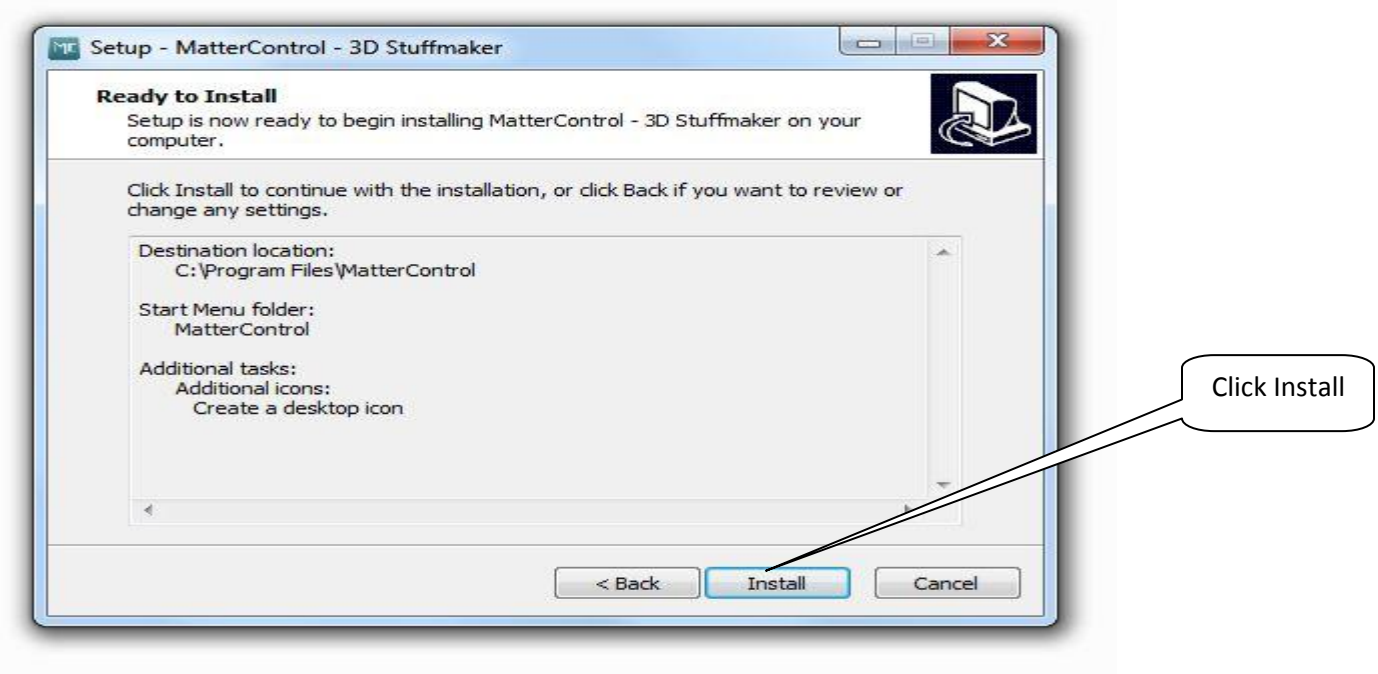
Step 7: Click "Next".

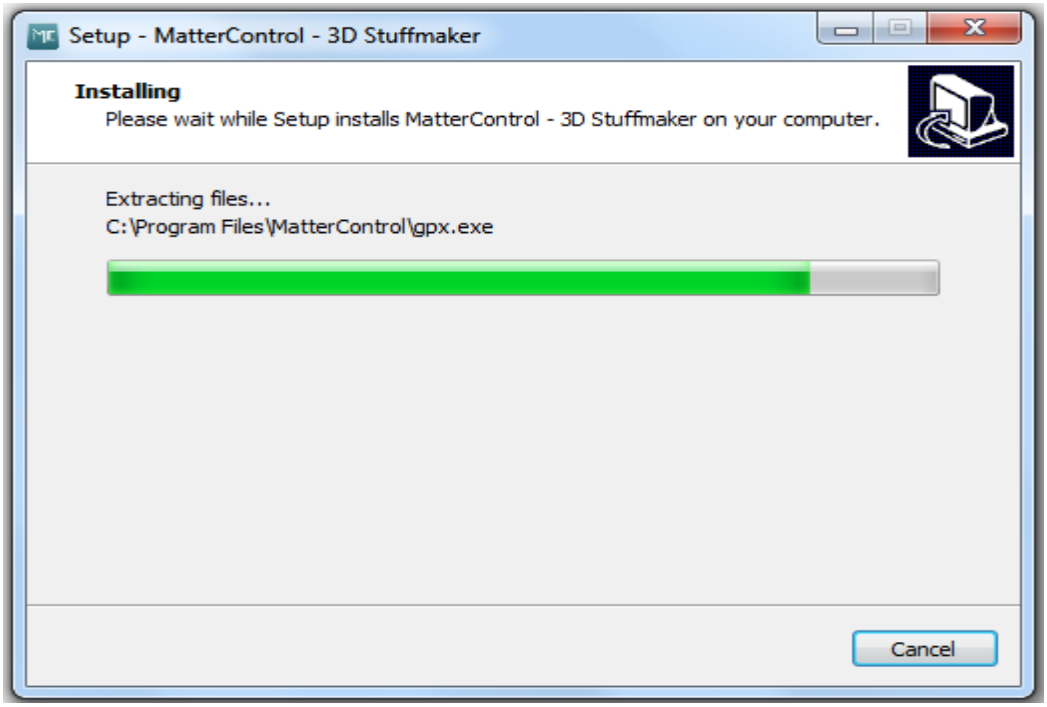


Step 8: Click "Next".

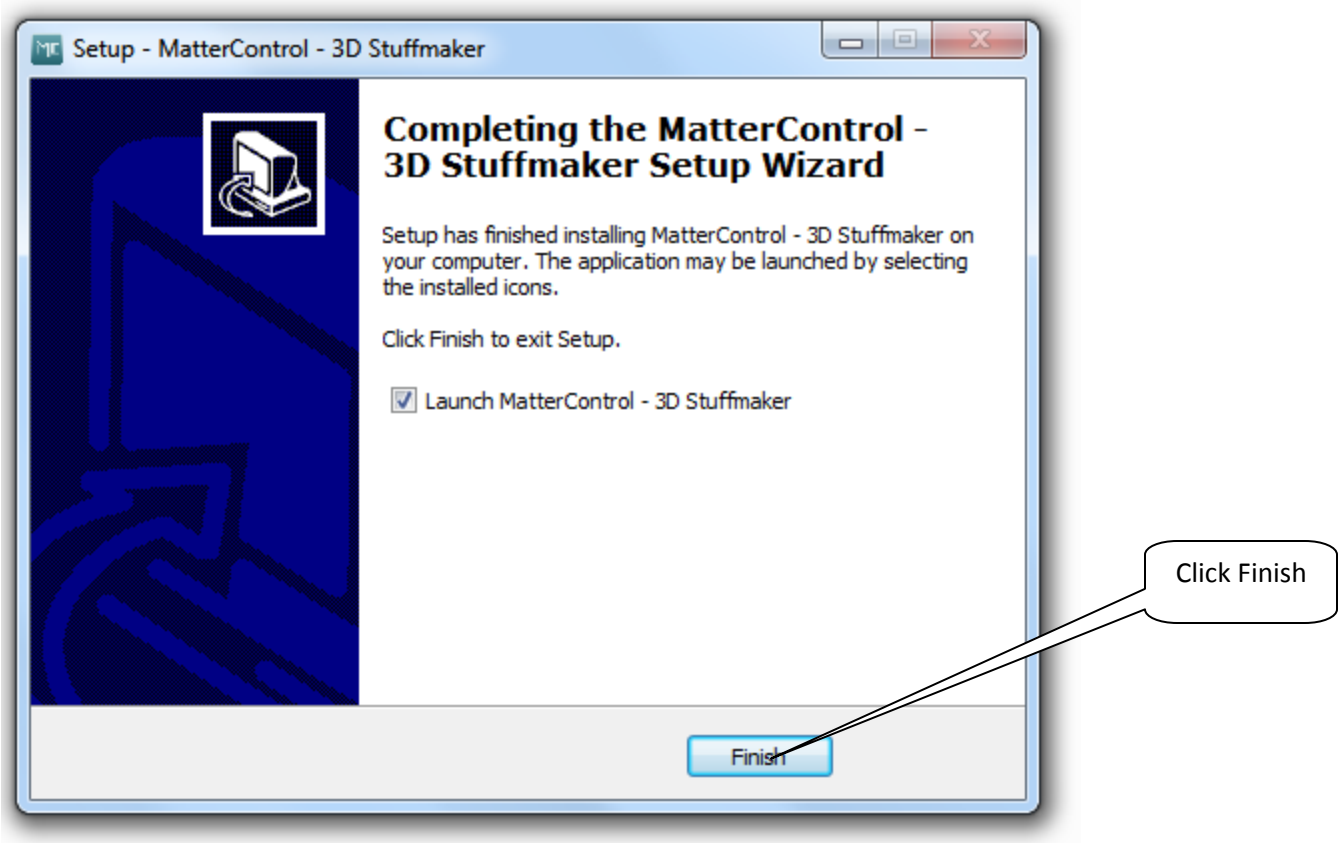


Step 9: Click "Install".

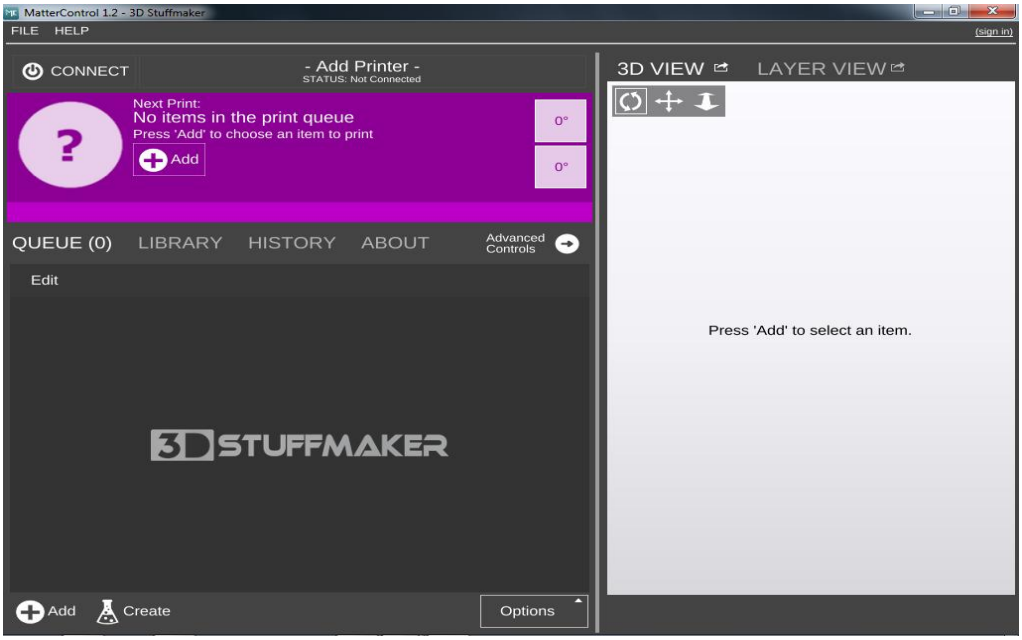




Step 10: Click "Finish".

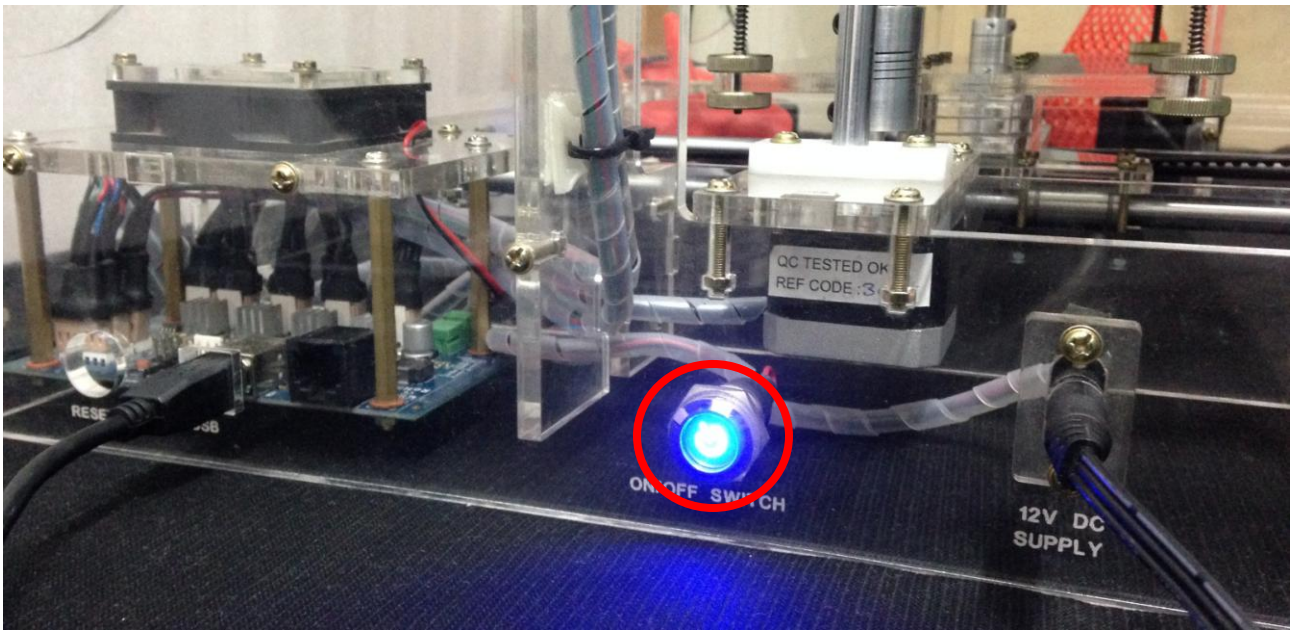


- Now the updated software installed successfully. Then the software home page will be displayed as shown in below picture.



Step 11:

- Ensure connections as per Assembly Manual (USB & 12V 5A Power Supply)
- Switch on the Power Button



Commissioning 3DSTUFFMAKER printers

[Process by which an equipment, facility, or plant (which is installed, or is complete or near completion) is tested to verify if it functions according to its design objectives or specifications.]

1. Check connection between board and computer
2. Check Power supply (turn fan)
3. Check port settings
   a.) Is the port communicating?
4. Check X Home.
5. Check Y Home
6. Check All Home / Proxy sensors
7. Feed PLA manually to check nozzle flow
8. Nozzle cleaning
9. Do small print

GUIDE

Preparing the Platform

Before you start printing, the platform must be prepared so that the model adheres to the platform enough to be printed without the model moving. At the same time, you will want the model to be easy to remove from the platform after printing. There are several options for preparing the platform:

Benefits of using a Heavy Duty Print Plate:

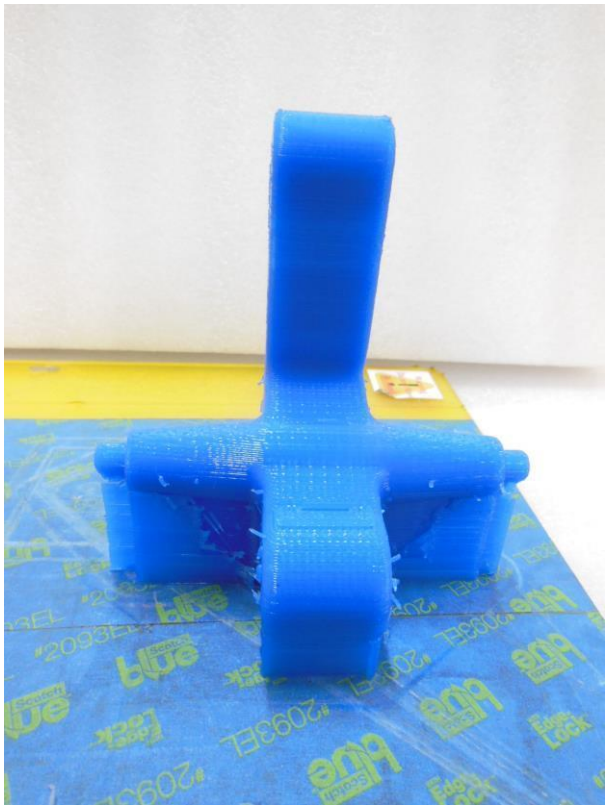
Its aluminum finish is ideal for everyday professional use. A layer of "Surface protective tape" is covered over the platform. Using surface protective tape as a platform surface, increases adhesion between the object and the build platform.

- Very sturdy
- Easy to clean when soaked in warm water
- If the surface is getting messy, just change the surface protective tape over
- A great investment for those that want to make a lot of 3D prints
- Easy to Install

Paint Masking Tape

You can also use paint masking tape for larger print. Using masking tape as a platform surface, increases adhesion between the object and the build platform.

Simply cover the platform with a layer of blue masking tape and print onto the tape. (Submerge the print plate in water and the 3Dprint comes off neatly).



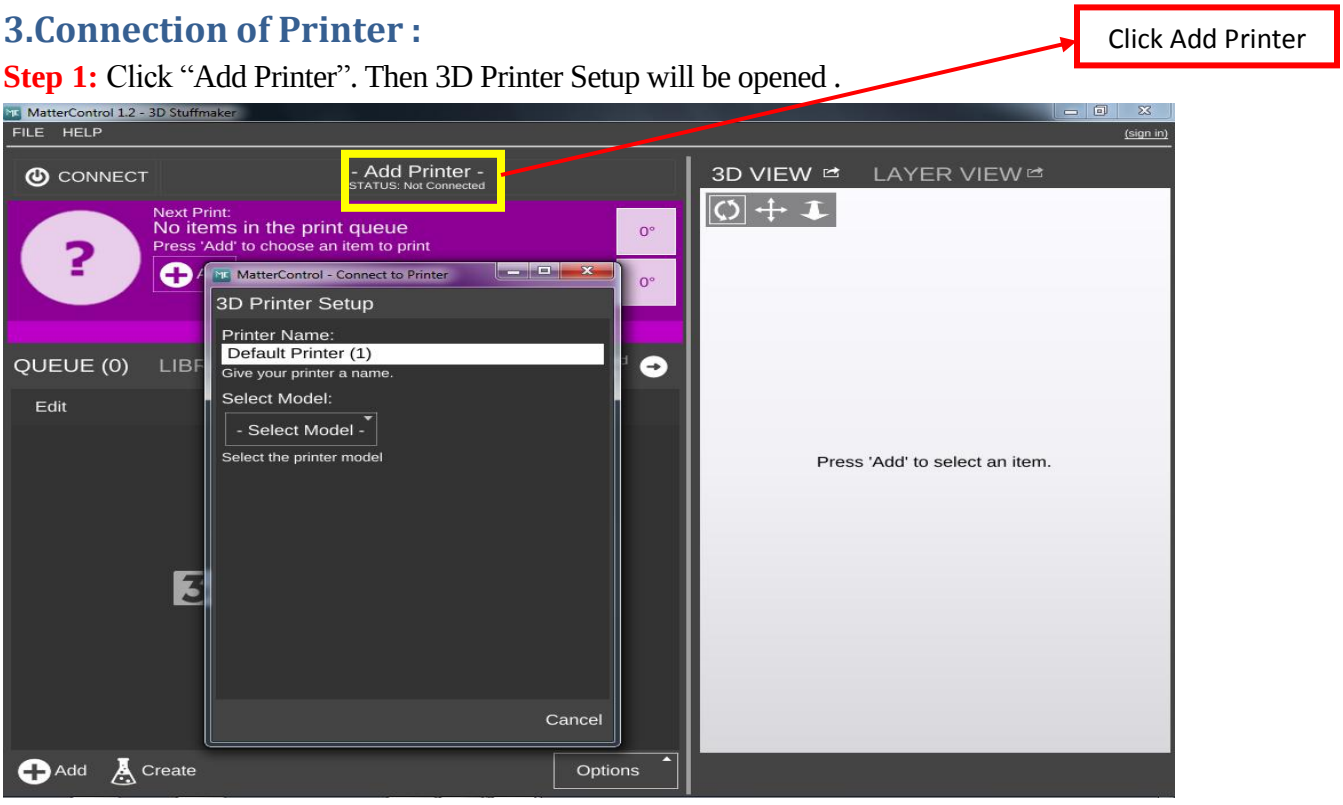
Tips and maintenance

- Regularly clean your build platform.
- Replace the surface protective tape when it wears out.
- Platform requires cleaning after a few prints to get it back to a smooth surface. Simply peel off the tape easily
- Know the plastic with which you are printing. Each plastic has its own characteristics, like melting temperature and extruding speed. Make sure your printer's profile is right for the plastic you are using.
- Whichever platform preparation method you use, the two factors that most reduce the risk of warping on large prints are ensuring that the platform is well leveled and well pre- heated.

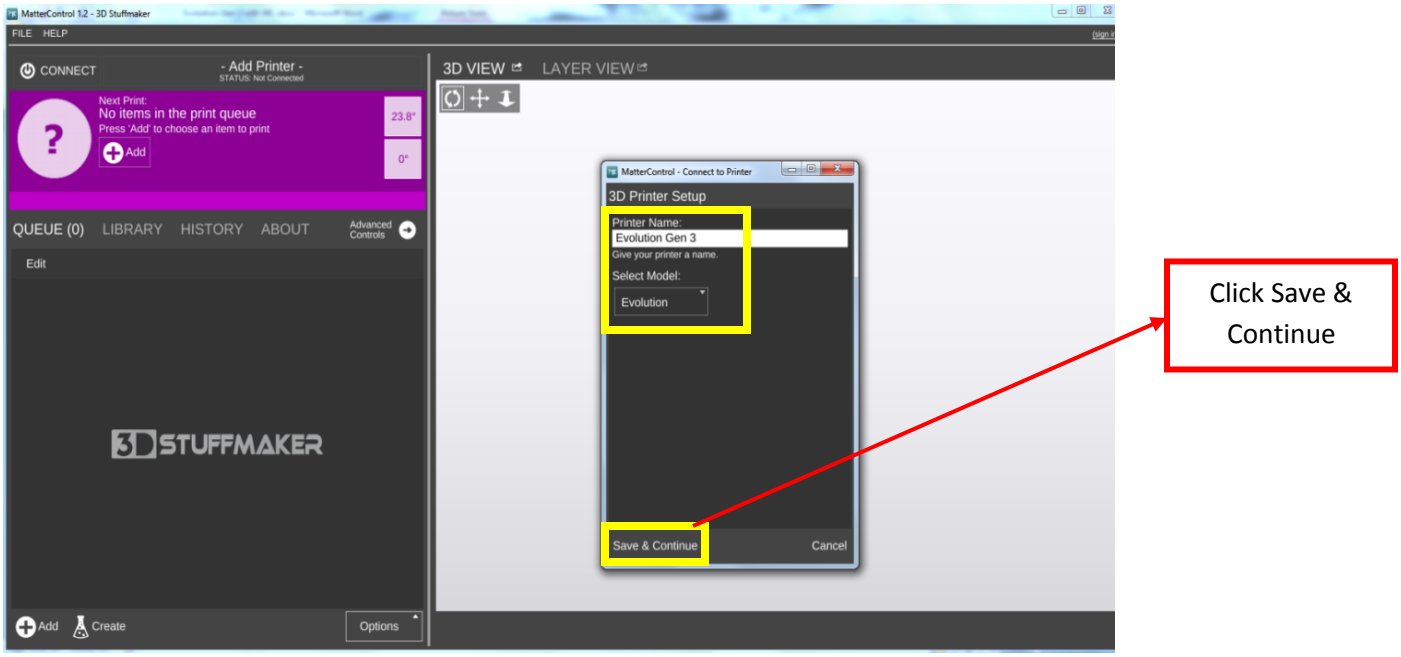
S.NO	SETTINGS	DESCRIPTION
1.	Port	Scans all possible ports
2.	Connect	Connects the Printer with the Software
3.	X+, X-	Moves the X axis in positive & negative axis respectively
4.	Y+, Y-	Moves the Y axis in positive and negative axis respectively
5.	Z+, Z-	Moves the Z axis in positive and negative axis properly
6.	X home	Moves the Xaxis to its Home Position
7.	Y Home	Moves the Y axis to its Home Position
8.	All Home	Brings the X,Y and Z axes to their home position
9.	XY mm/min	Sets the X and Y motor speed in mm/min
10.	Z mm/min	Sets the Z motor speed in mm/min
11.	Extruder Temperature – Set	Sets the Target Temperature
12.	Extrude -mm	Sets the length of the PLA to be extruded for a single run
13.	Extrude –mm/min	Sets the speed of the extruder in mm/min
14.	Retract	Runs the extruder in reverse direction for a specified length
15.	Add	Add the STL File from the specified Location
16.	Print	Prints the Object

3.Connection of Printer :

Step 1: Click "Add Printer". Then 3D Printer Setup will be opened .

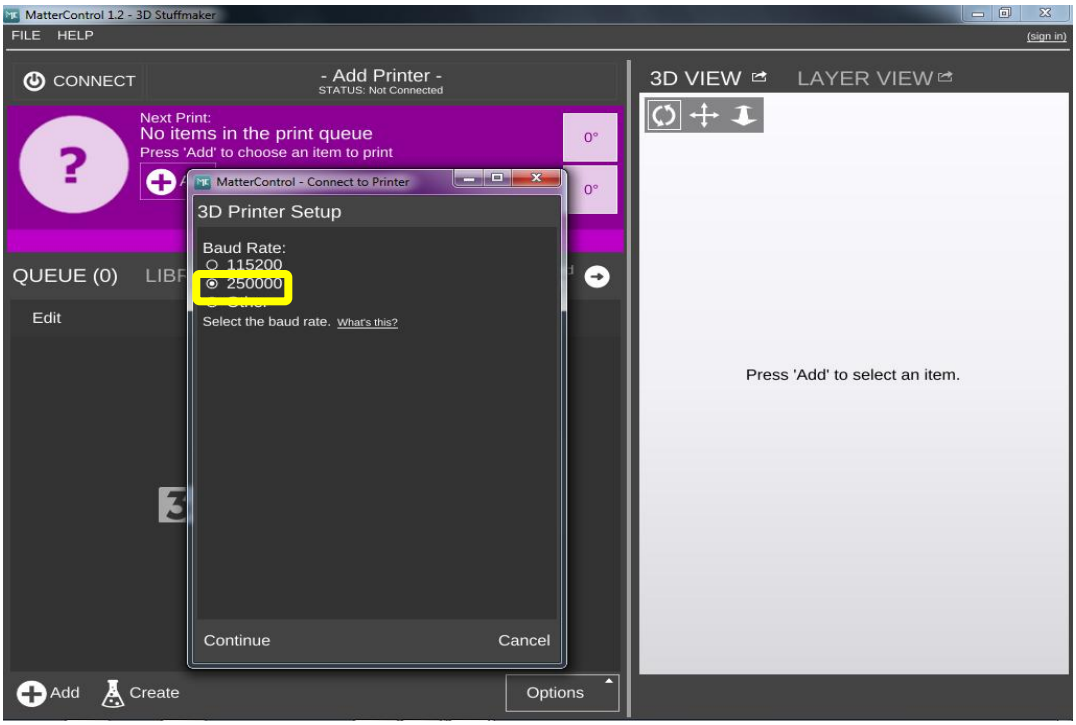


Step 2: Modify Printer Name as "Evolution Gen 2" and Choose "Evolution" in Select Make Option as shown in below picture and Click "Save & Continue".

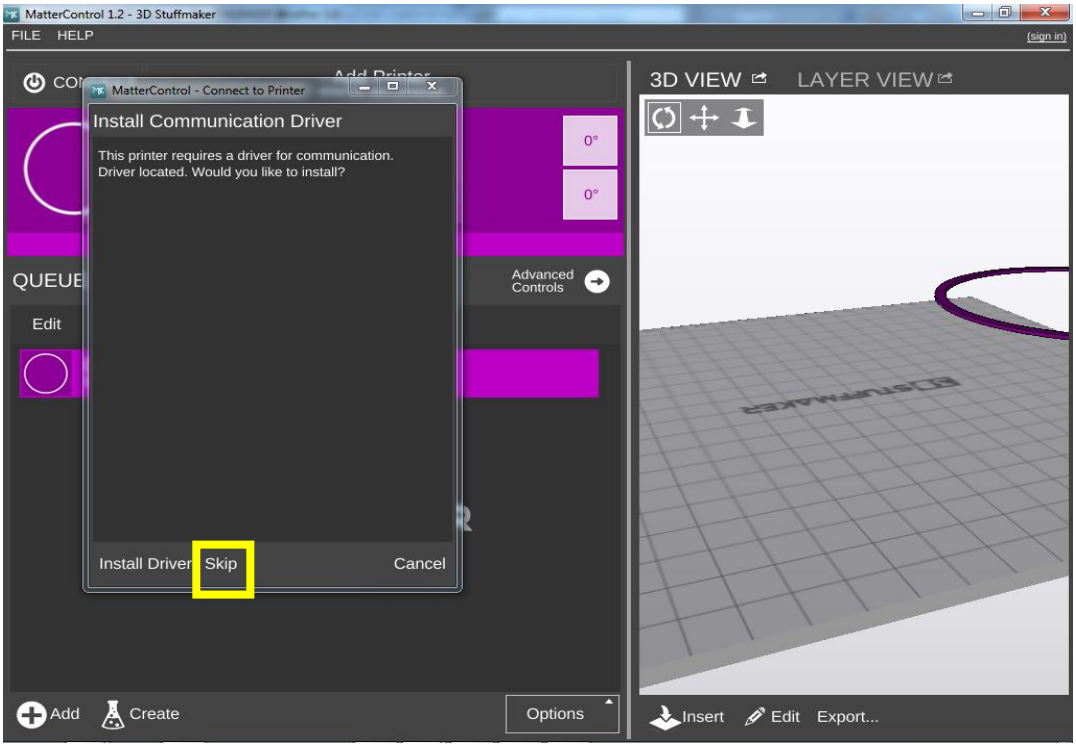


3.1.Baud Rate

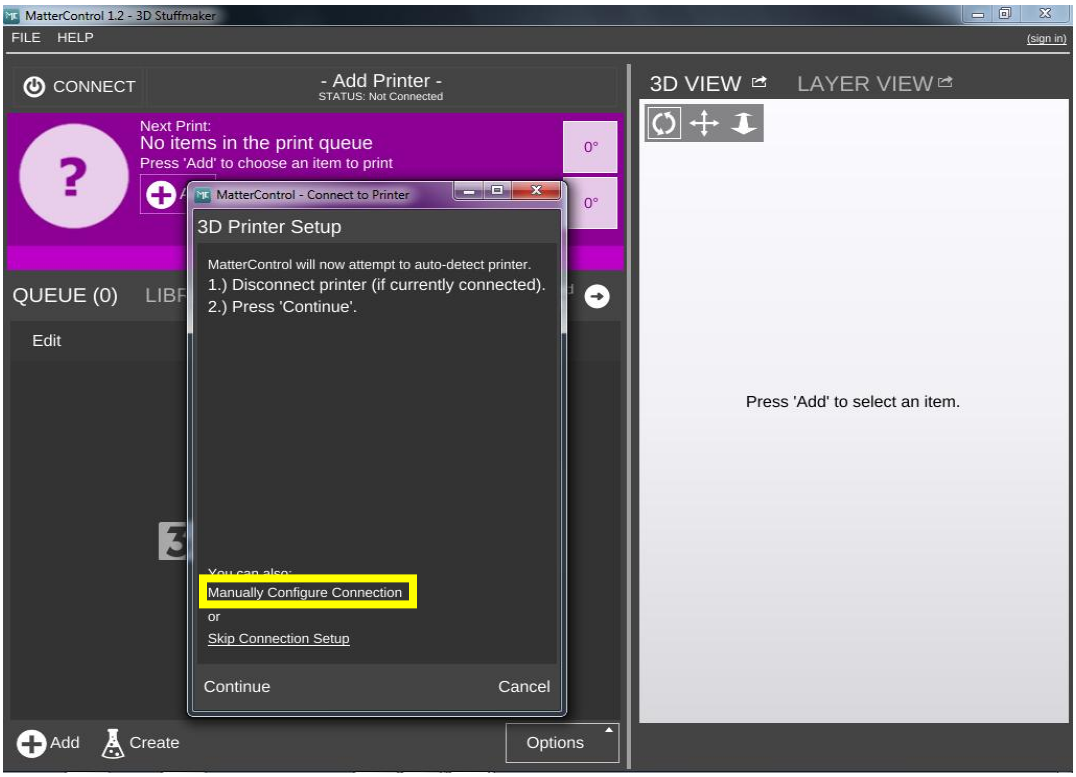
Step 1: Choose the Baud Rate as 250000.



Step 2: Click "Skip".

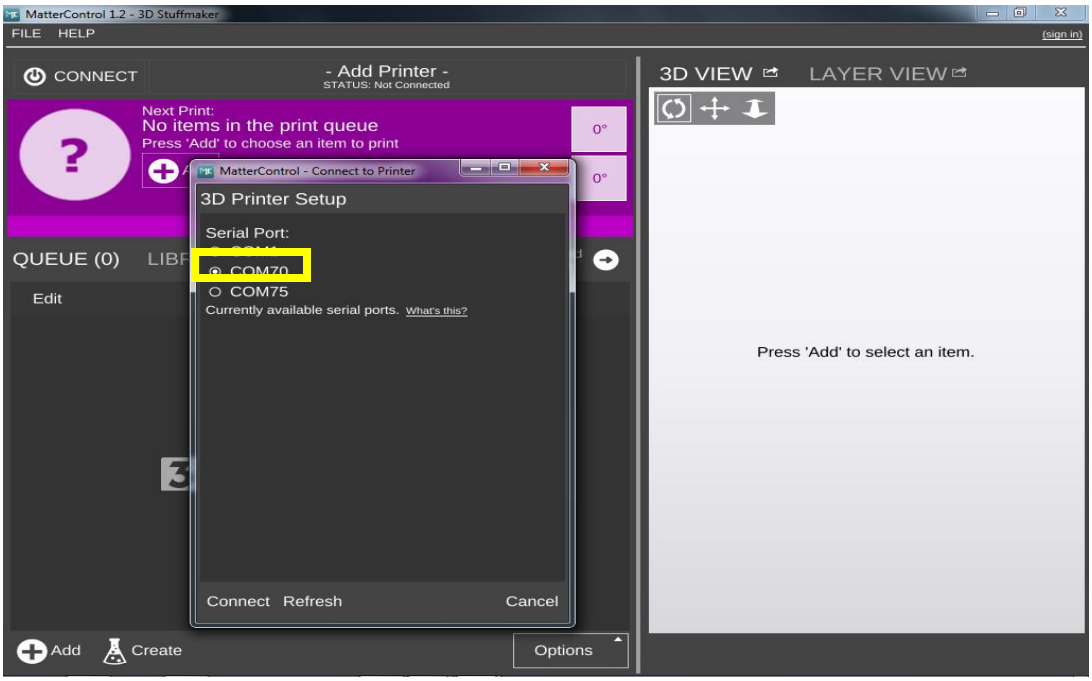


Step 3: Click "Manually Configure Connection".

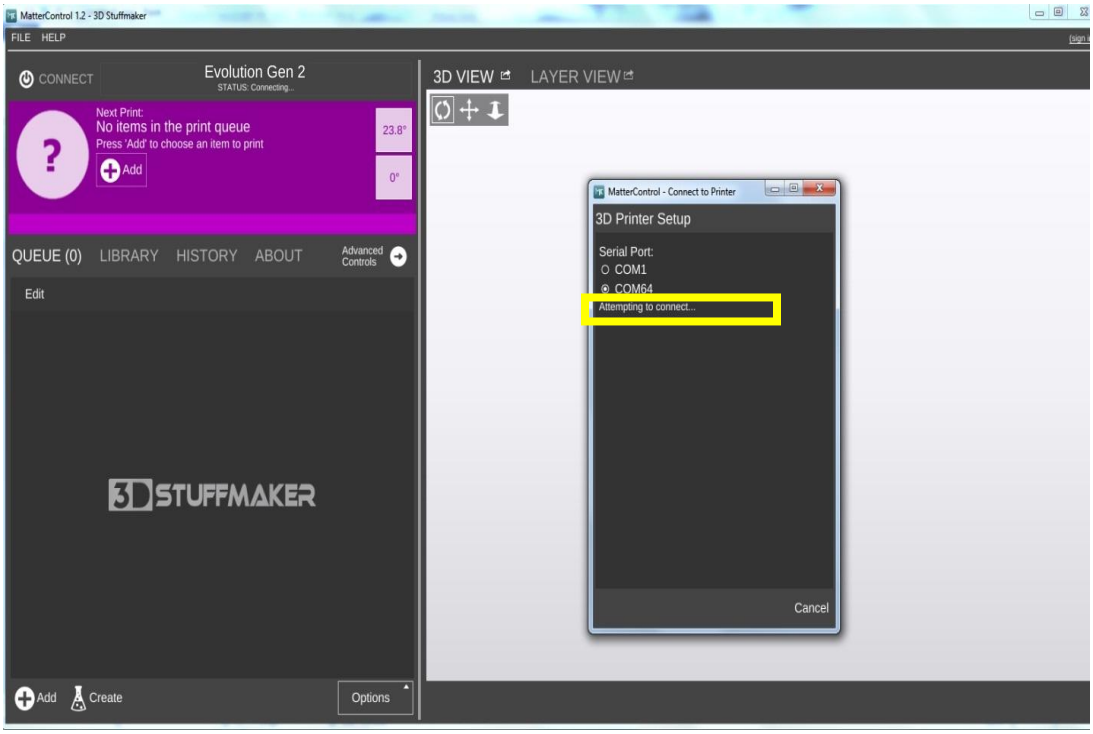


3.2. Port Connection

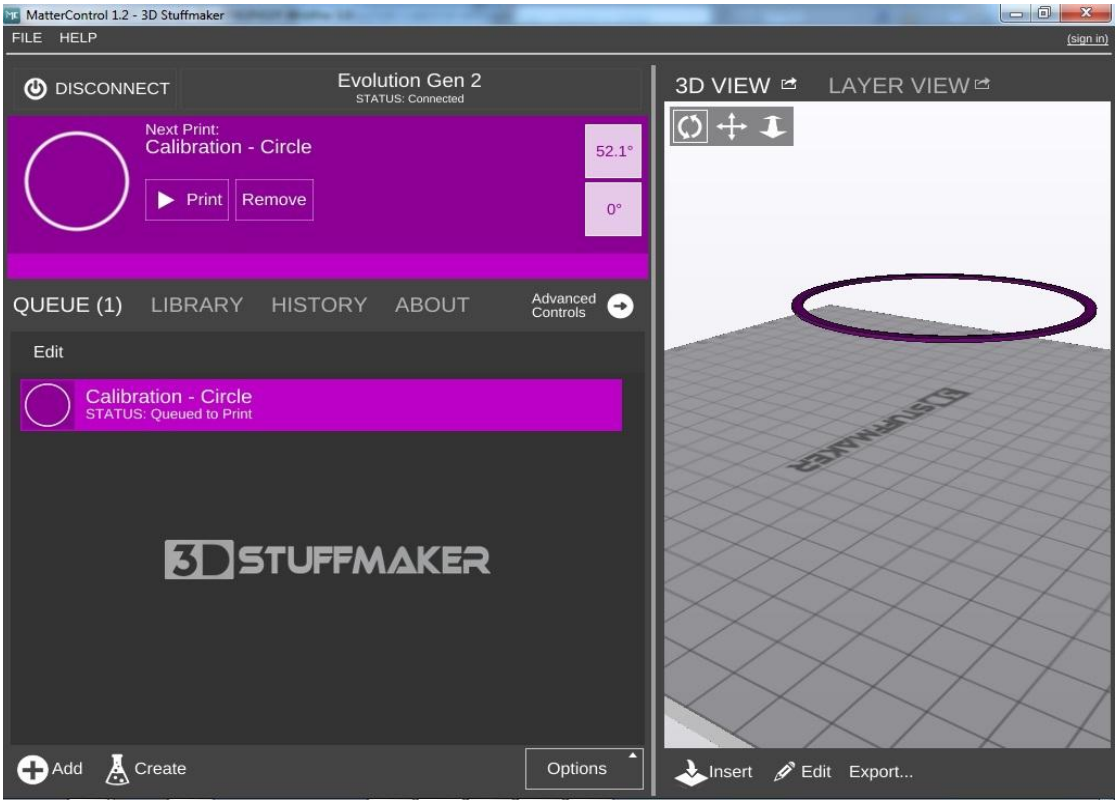
Step 1: Click on Manually Configure Connection and Choose the Port Number accordingly. (i.e) COM XXX or COM XX. Click "Connect" .



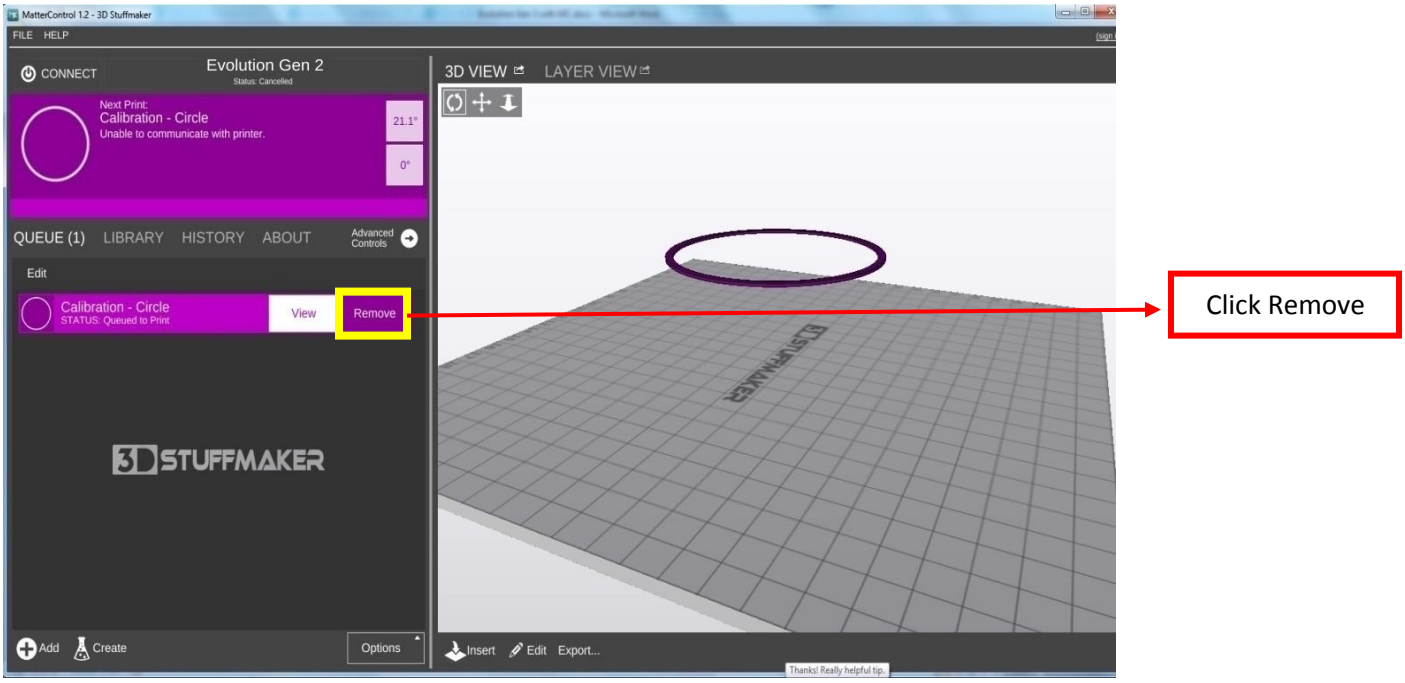
Step 2: Its getting Attempting to Connect.



Step 3: Now the printer is successfully with your system.

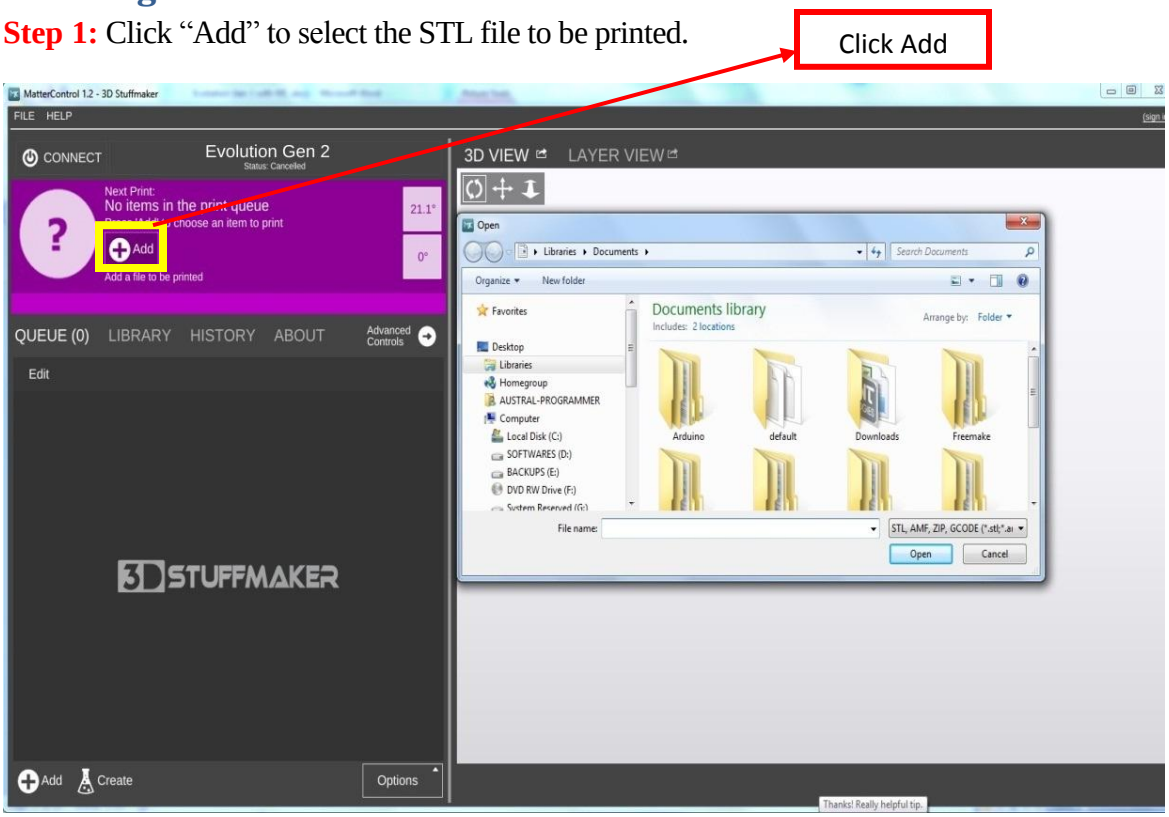


Step 4: Click "Remove" to add the new STL file.

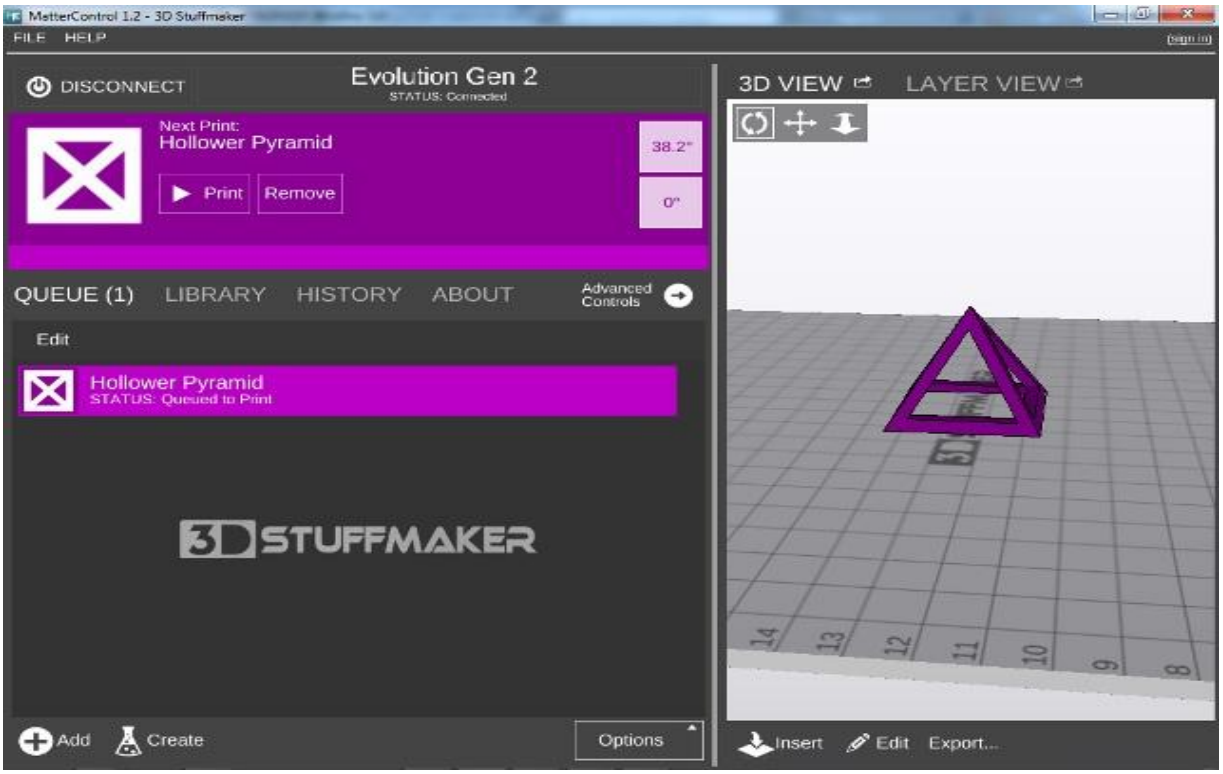


4.Adding New STL File

Step 1: Click "Add" to select the STL file to be printed.

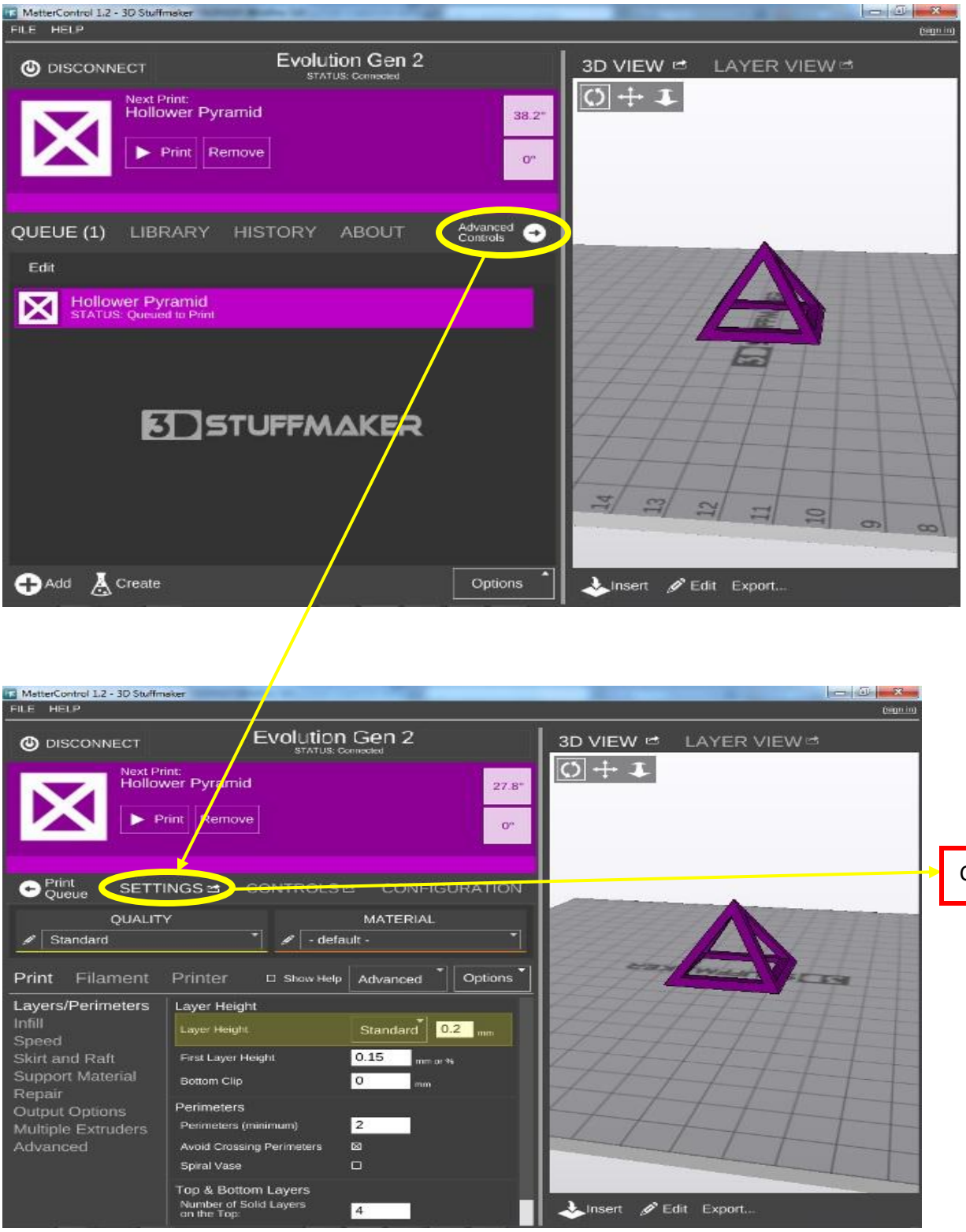


Step 2: Now the STL file is loaded.



5.Selection of Quality & Material

Step 1: Click "Advanced Controls" and again Click "Settings".

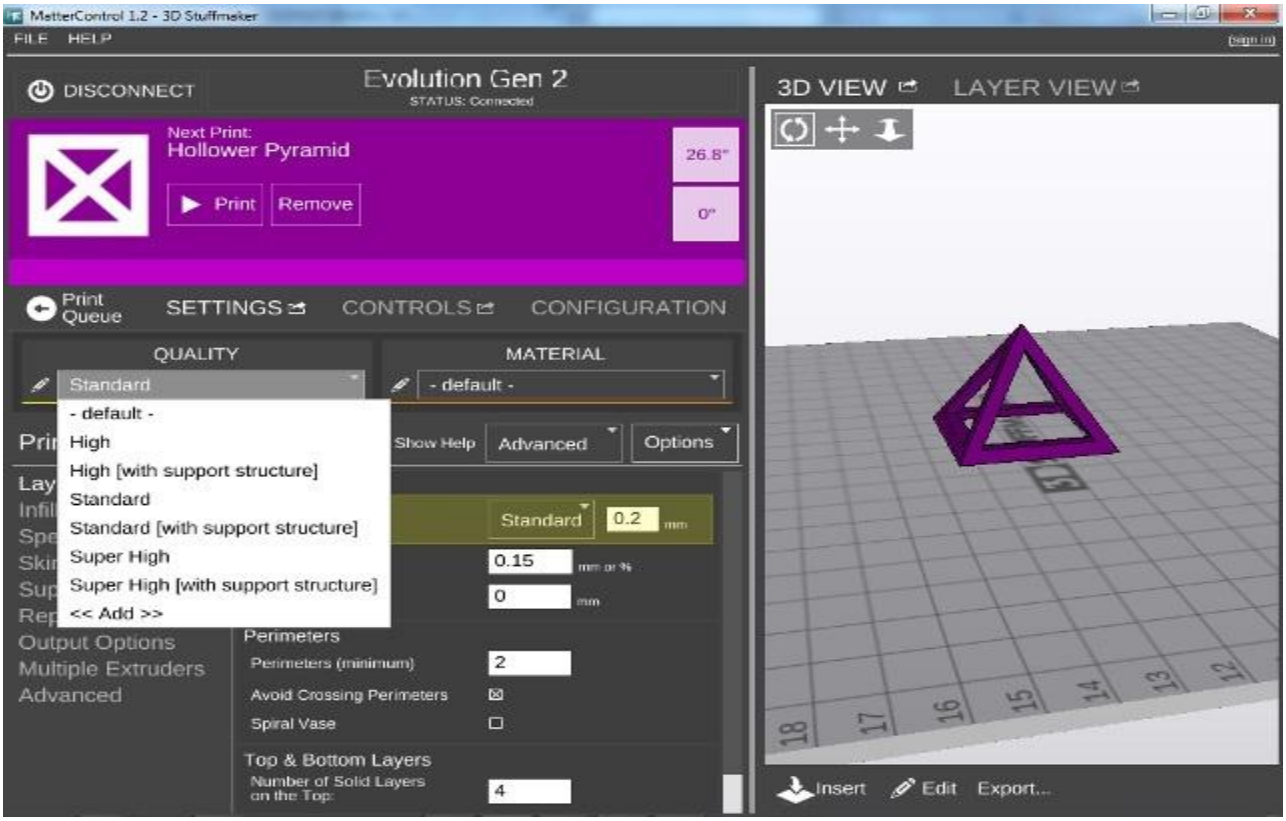


5.1. Selection of Quality

Step 1: Under Quality,

- High
- High [with support structure]
- Standard
- Standard [with support structure]
- Super High
- Super High [with support structure]

- Choose the "Quality" from the list.



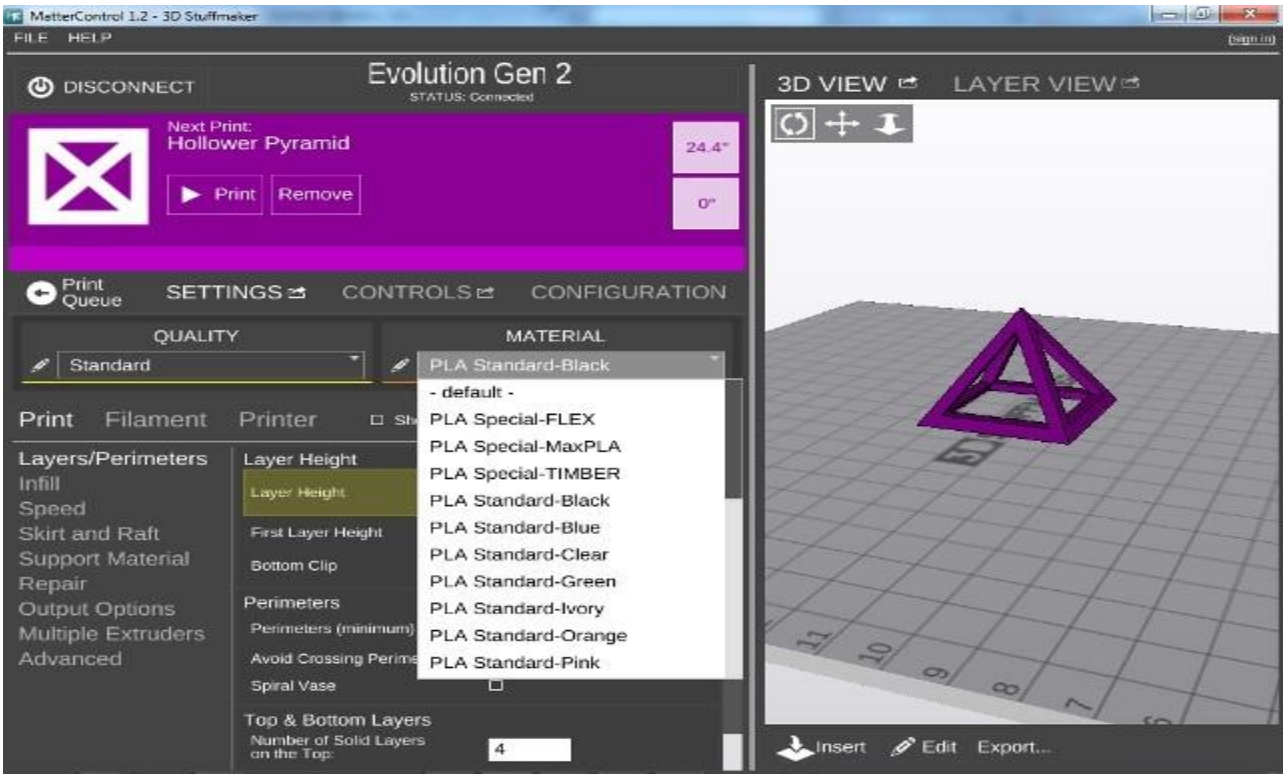
5.2. Selection of Material

Step 2: Under Material,

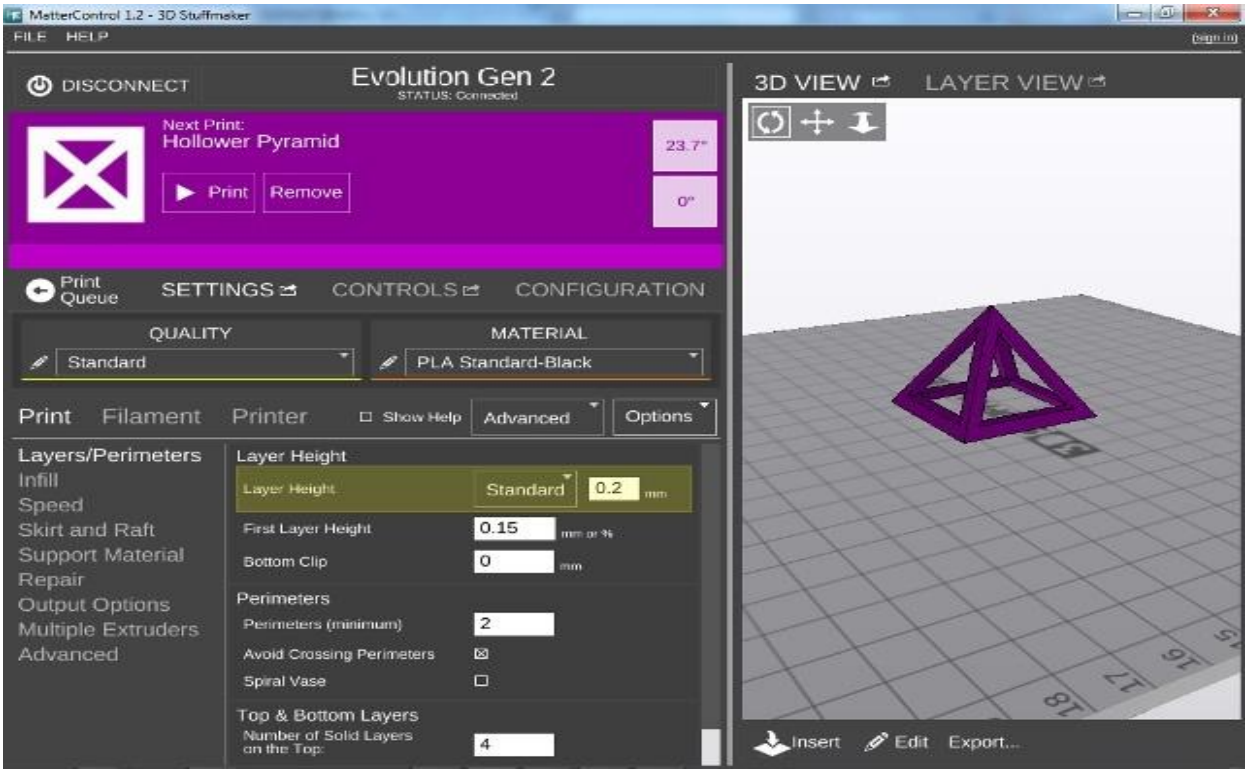
- PLA Special – FLEX
- PLA Special – Max PLA
- PLA Special – TIMBER
- PLA Standard – Black
- PLA Standard – Blue
- PLA Standard – Clear
- PLA Standard – Green

- PLA Standard – Ivory
- PLA Standard – Orange
- PLA Standard – Pink
- PLA Standard - Purple
- PLA Standard - Red
- PLA Standard - Silver
- PLA Standard – White
- PLA Standard – Yellow
- PLA Super Flow - Black
- PLA Super Flow - Blue
- PLA Super Flow – Clear
- PLA Super Flow – Orange
- PLA Super Flow – Red
- PLA Super Flow – Trans.Blue
- PLA Super Flow – Trans.Orange
- PLA Super Flow – Trans.Red
- PLA Super Flow – Trans.Yellow
- PLA Super Flow – White
- PLA Super Flow - Yellow

Choose the "Material" from the list.

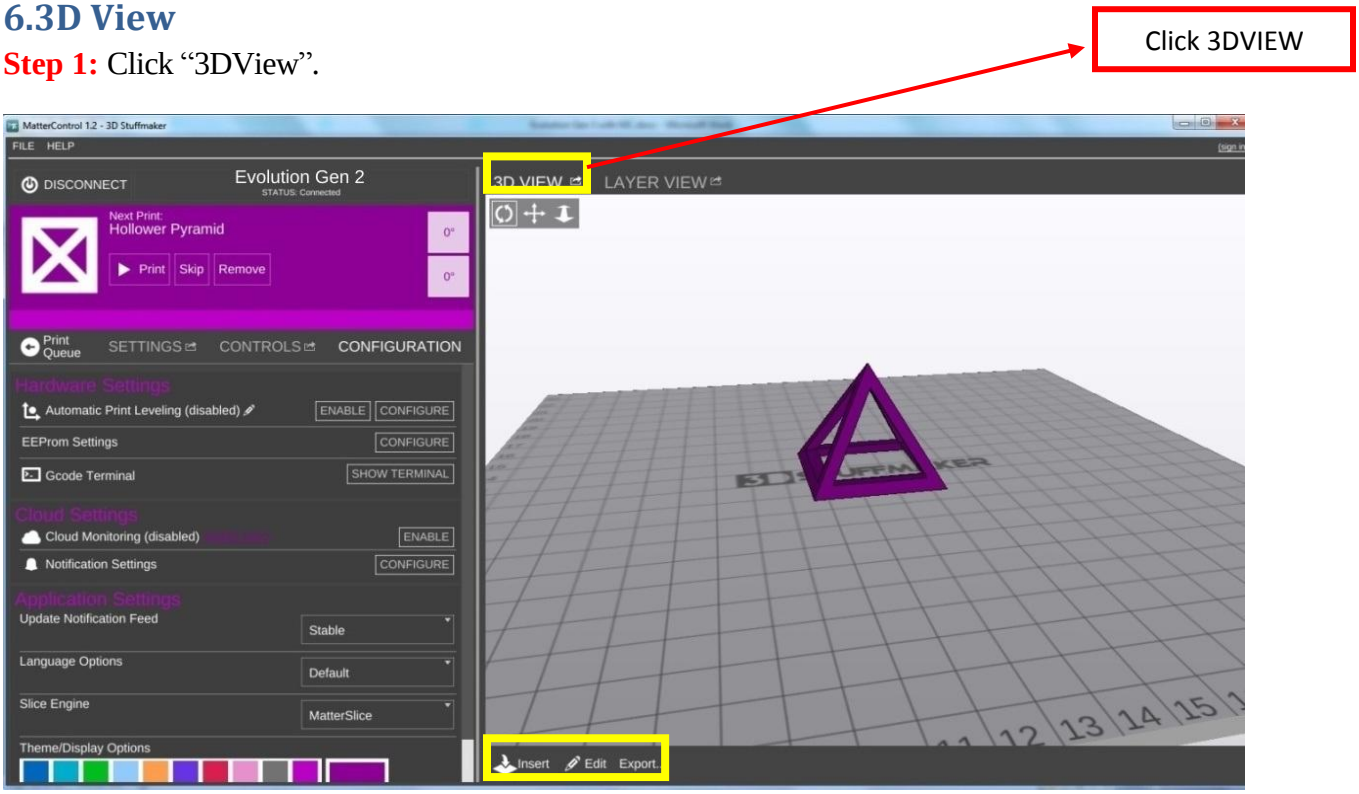


Step 3: Now under Quality Standard" and under Material "PLA Standard-Black" is selected.



6.3D View

Step 1: Click "3DView".

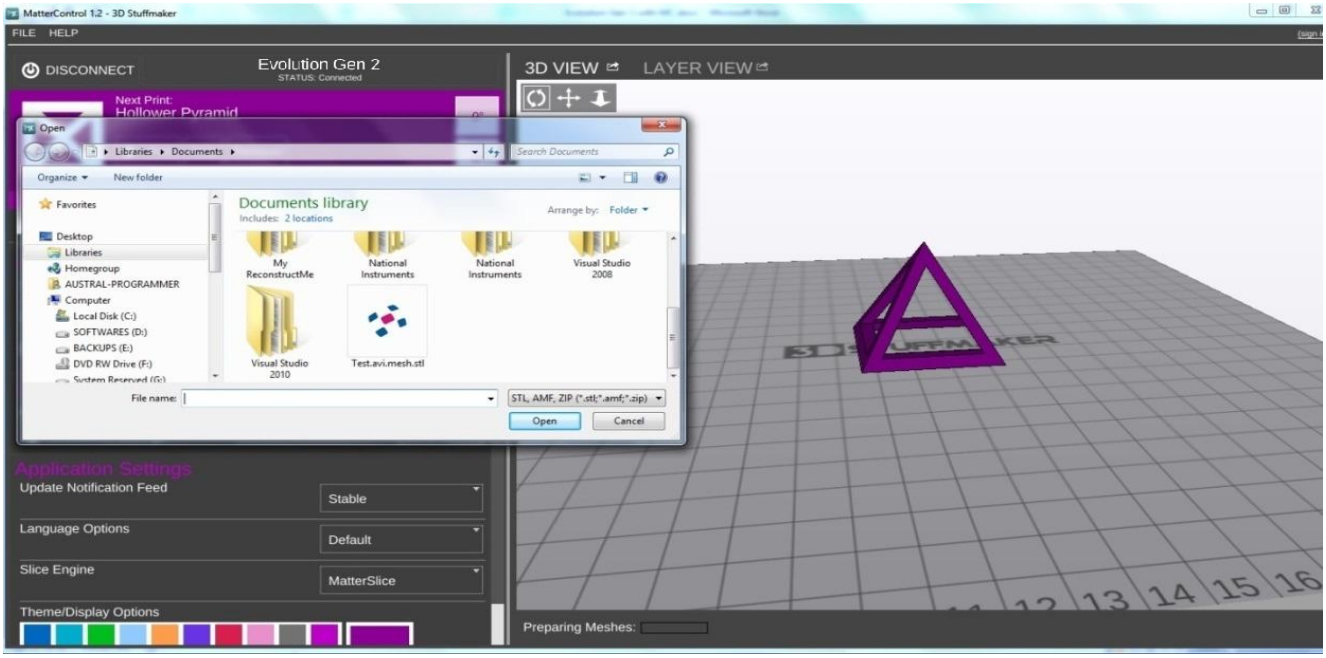


In the bottom left corner of the window,

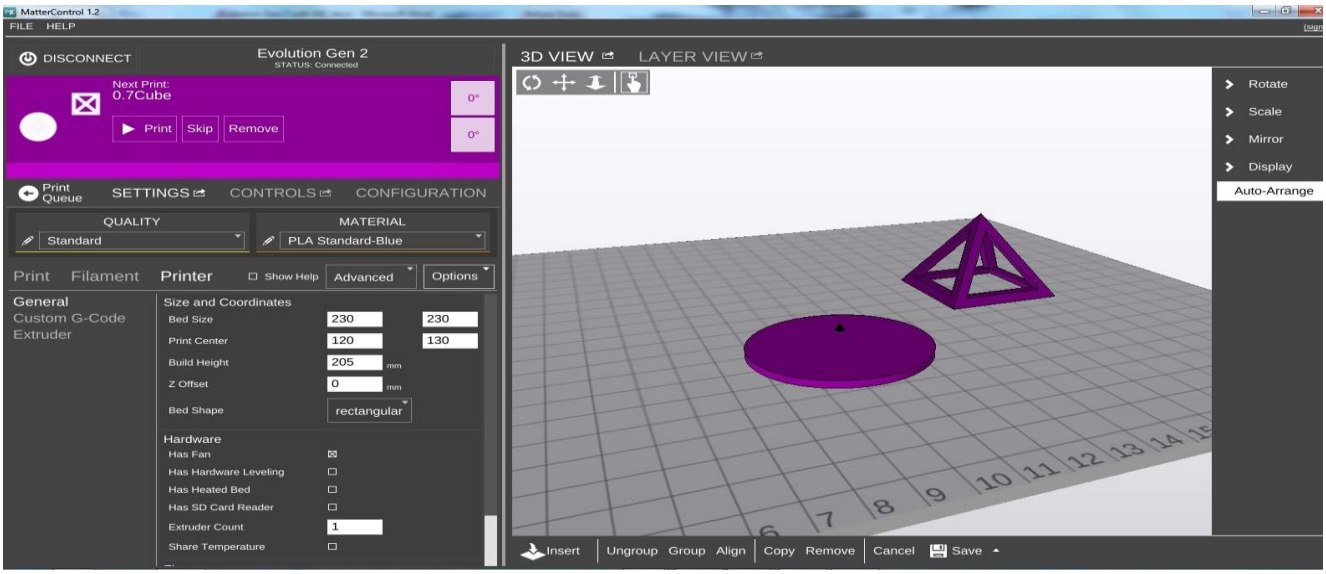
- Insert – Can Insert another STL file
- Edit– Can do Modifications(Editing)
- Export– Can export the File as STL, AMF,GCODE

6.1. Insert

Step 1: Clicking "Insert" the below screen will be displayed.

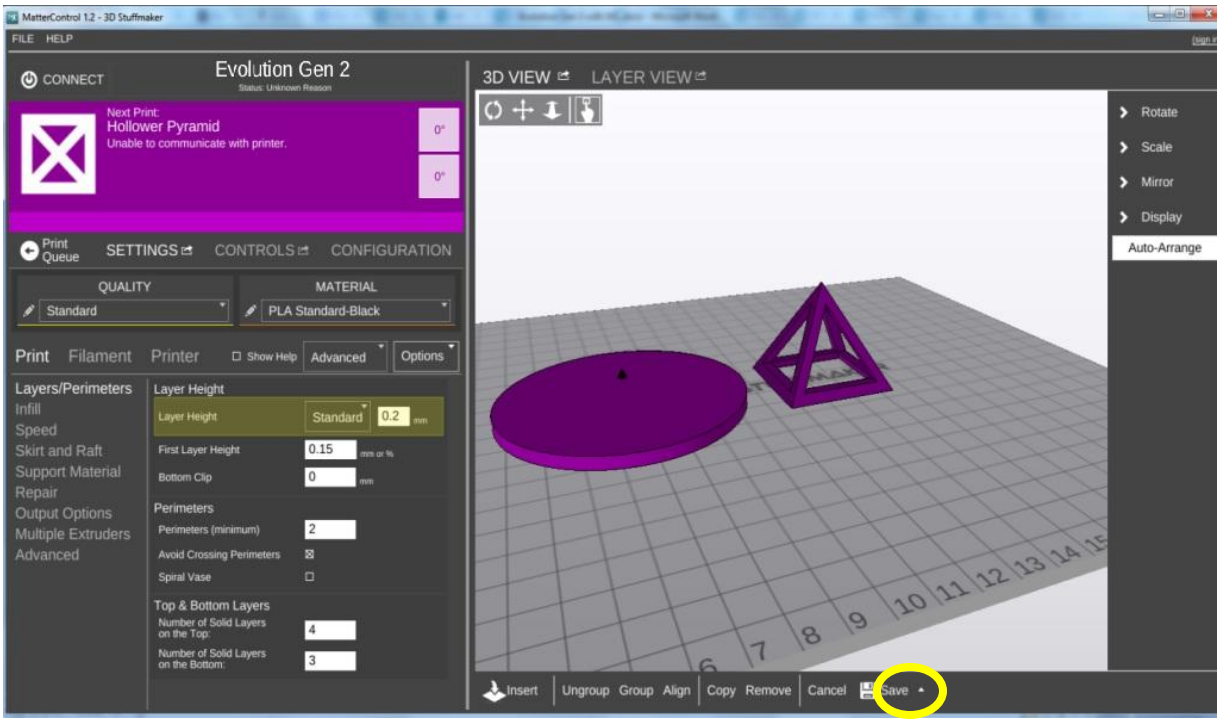


Step 2: Now another STL file is inserted.



- Once Insert is clicked in the bottom left corner of the window,

- Ungroup – Used to Ungroup two objects
- Group – Used to Group two objects
- Align – Used to Align two objects
- Copy – Used to Copy two objects
- Remove – Used to Remove two objects
- Cancel - Used to Cancel two objects
- Save – Used to Save two objects

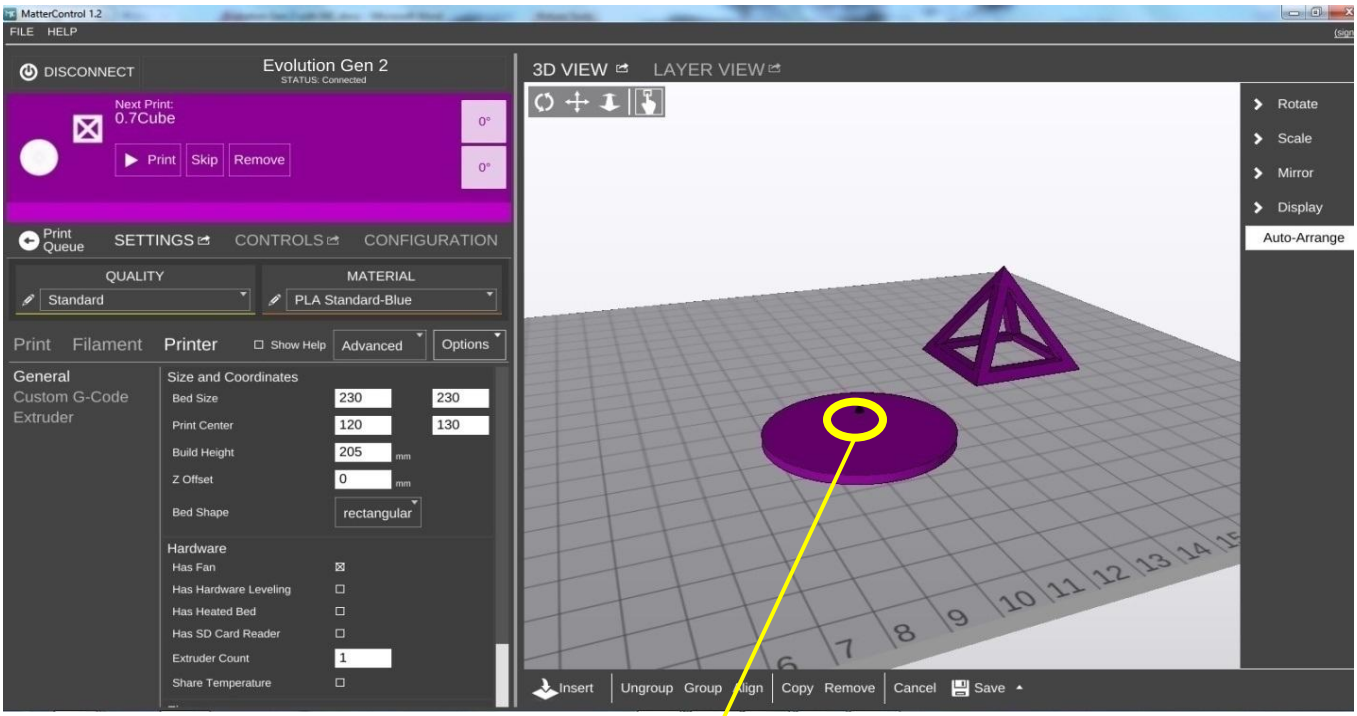


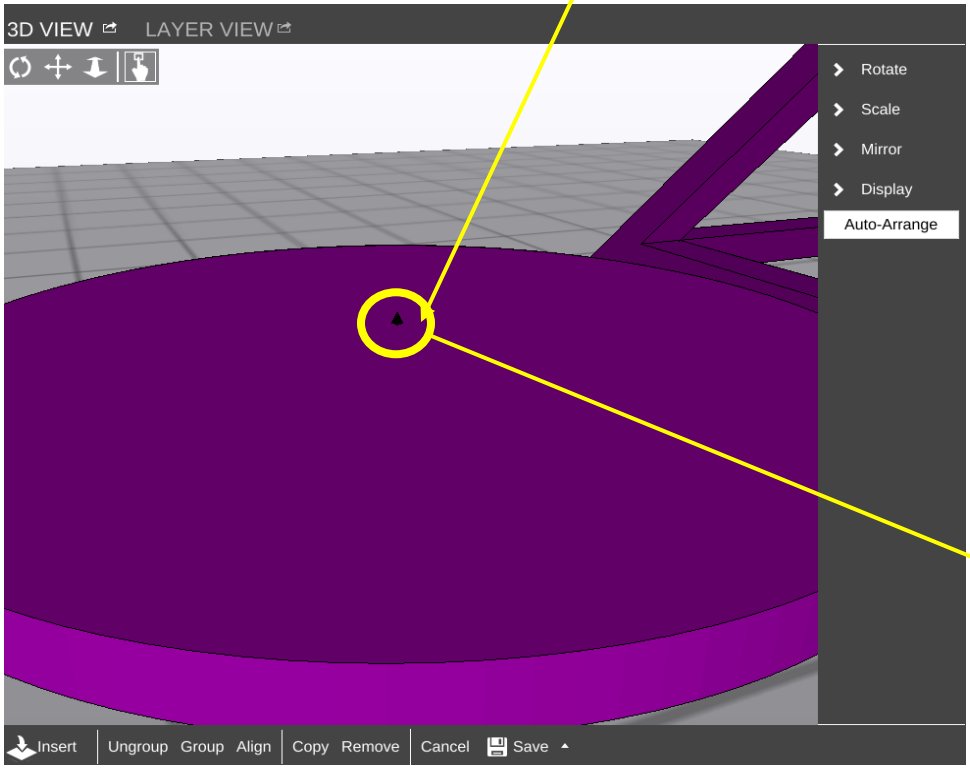
- After Inserting another STL File and performing the functions like Ungroup, Group, Align, Copy. Click "SAVE".

- Then Click Cancel to do "EDIT" function.

6.2. Edit

Step 1: Click "Edit".





Clicking Edit, Black Pointer will display on the object.

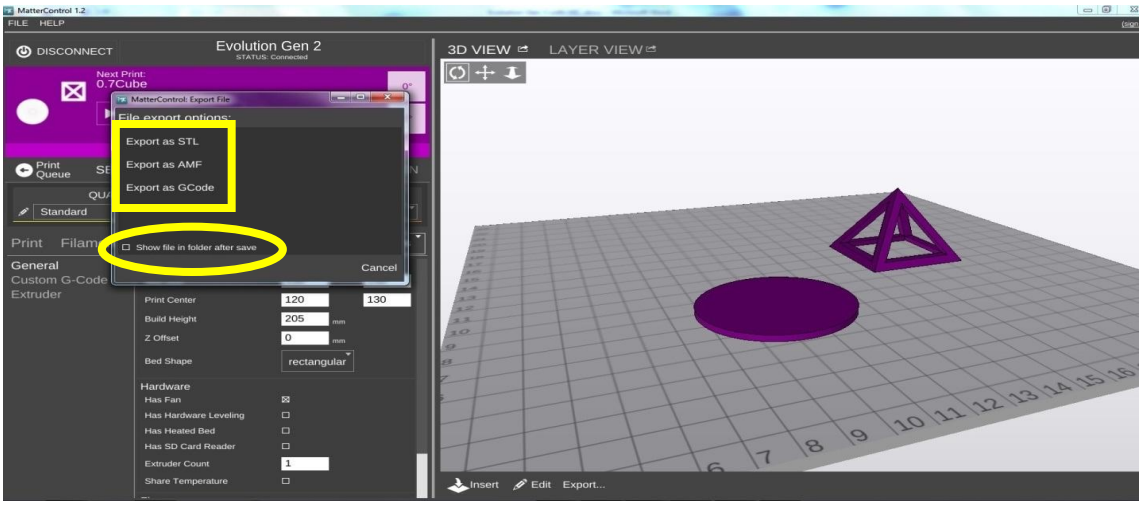
Note: Black Pointer refers for "Editing" the object. Move the pointer if editing needed for the object.

- Once Edit is Clicked in the bottom left corner of the window,

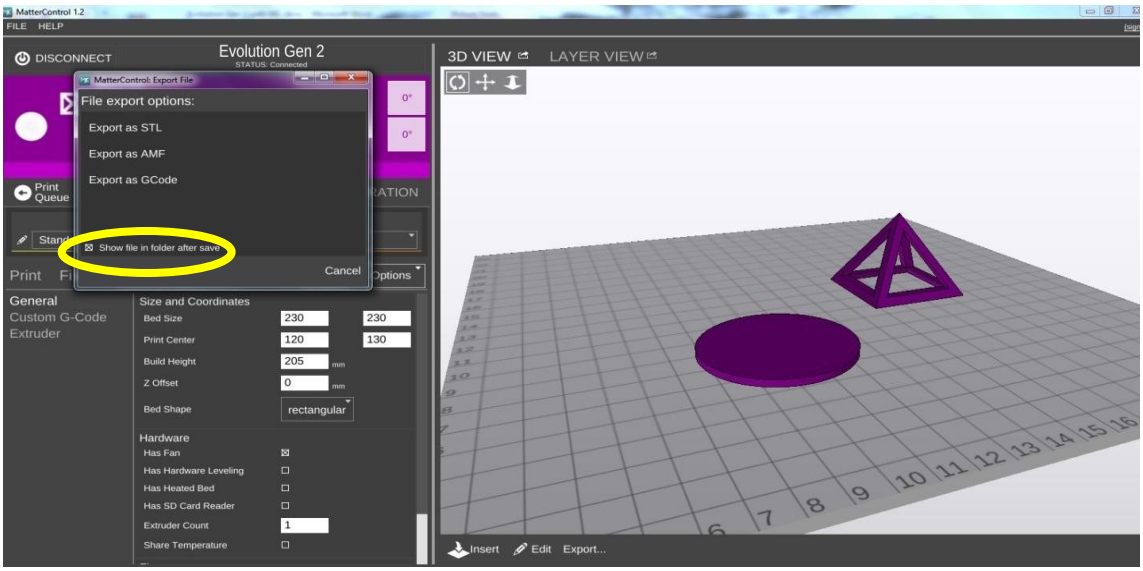
- Ungroup – Two objects are ungrouped
- Group – Two objects are grouped
- Align – Two objects are aligned
- Copy – Objects are copied
- Remove – Objects can be removed
- Cancel - Objects can be cancelled
- Save – Objects can be saved

6.3. Export

Step 1: Click "Export"

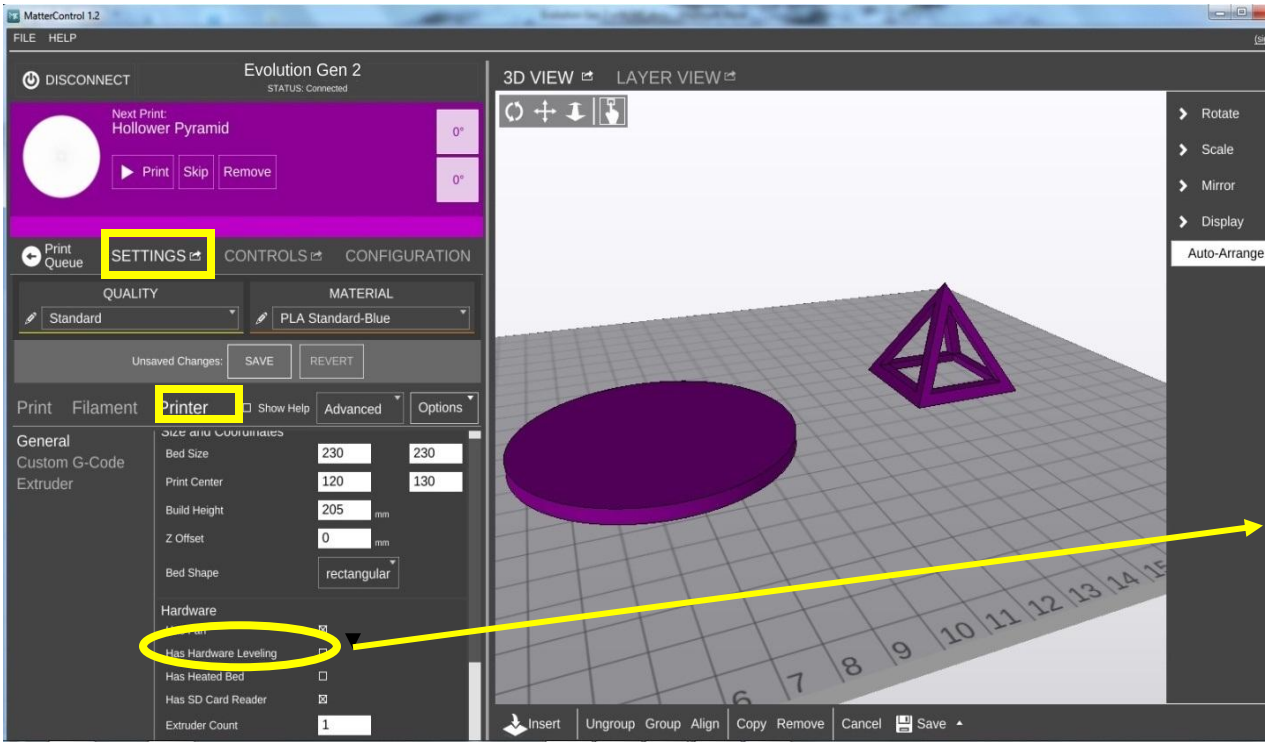


Now "Show file in folder after save" is enabled.

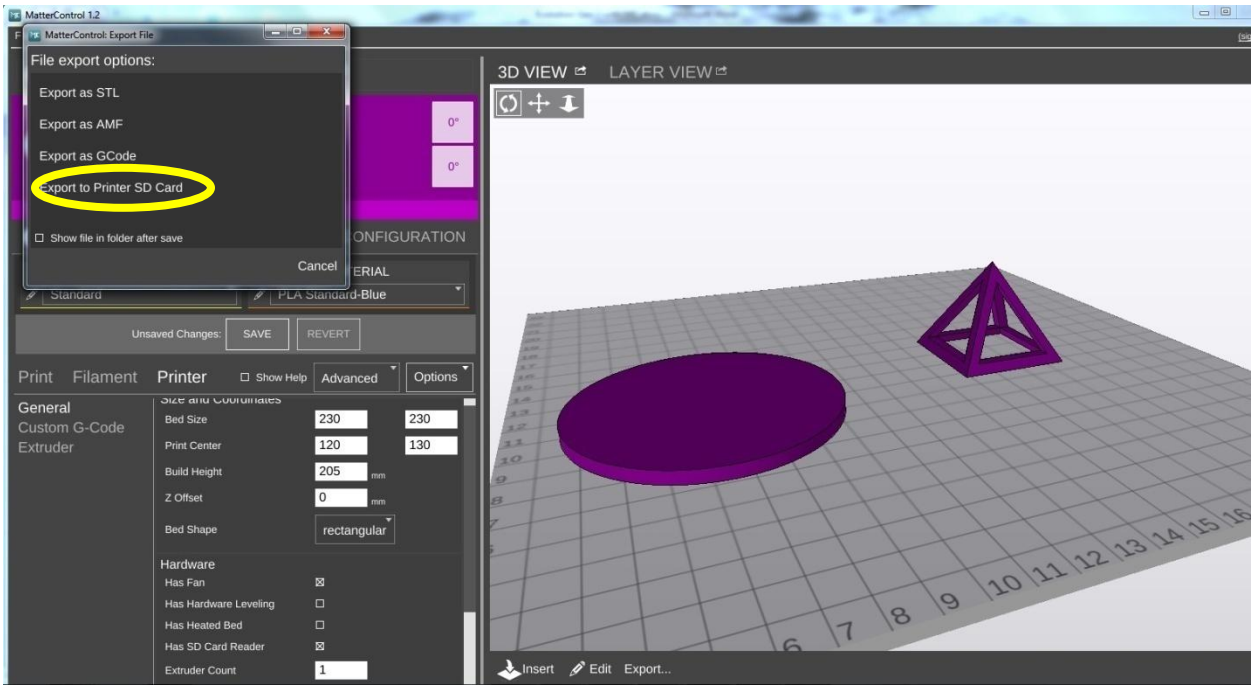


7.Transferring Object to SD Card

Step 1: Click Advanced Controls -> Settings -> Printer -> Has SD Card Reader

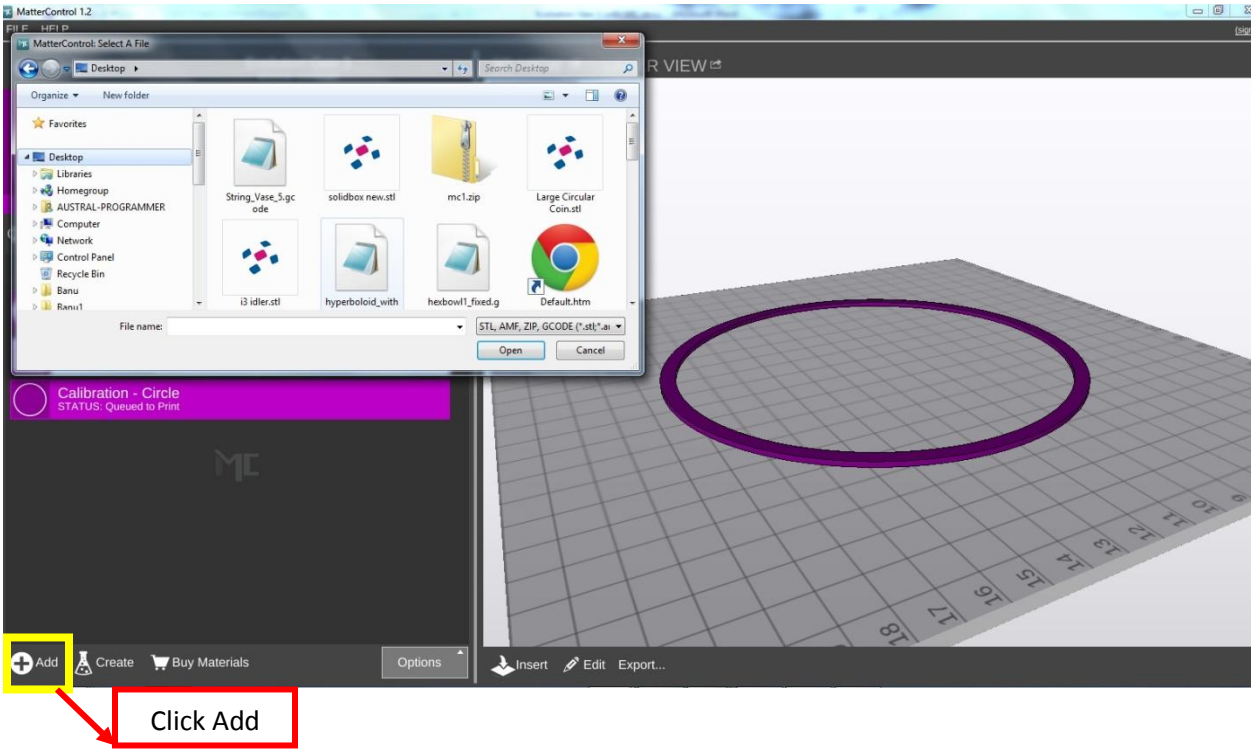


Has SD Card Reader is enabled; Export to Printer SD Card will be displayed.



8.Adding STL File

Step 1: Click "Add" under "Queue"



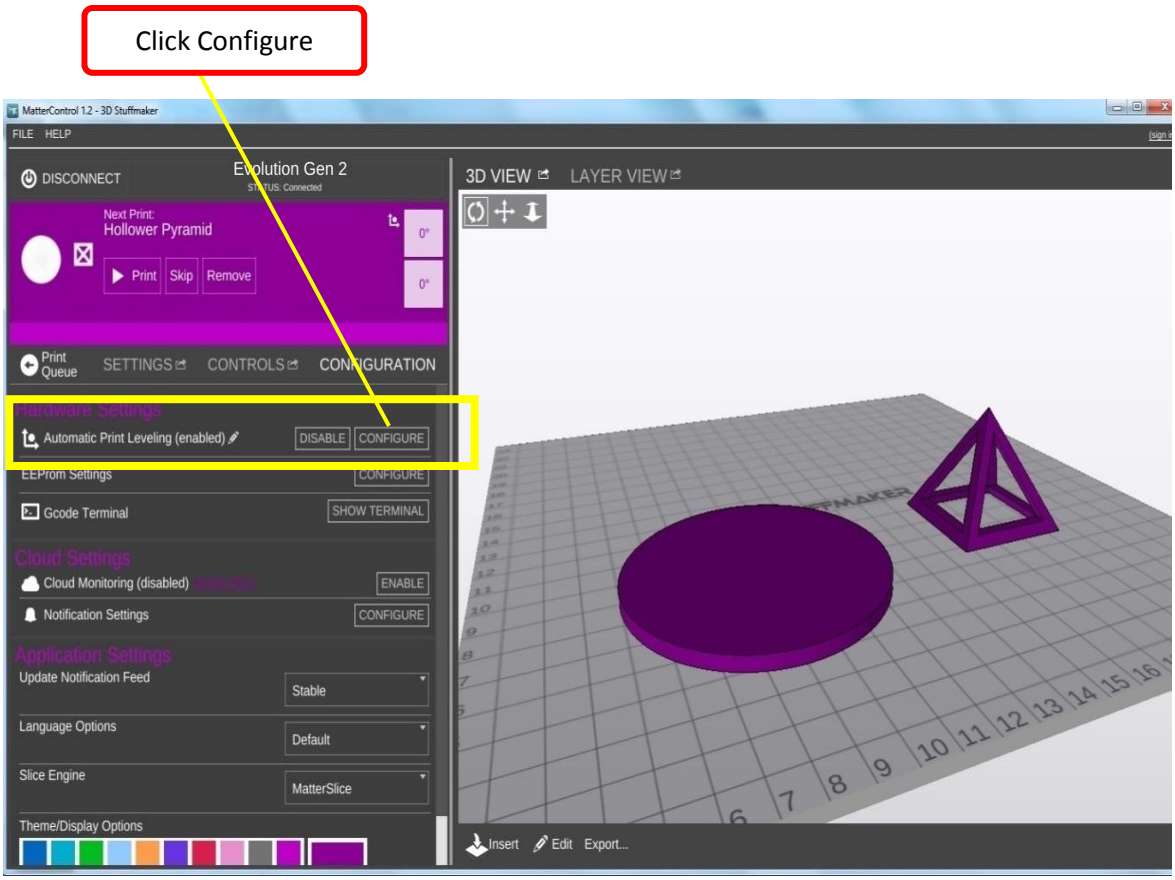
- Can Add STL files i.e. while print going, can view the new STL file preview in 3DVIEW. The new STL files get added in Queue.

9.Automatic Print Leveling

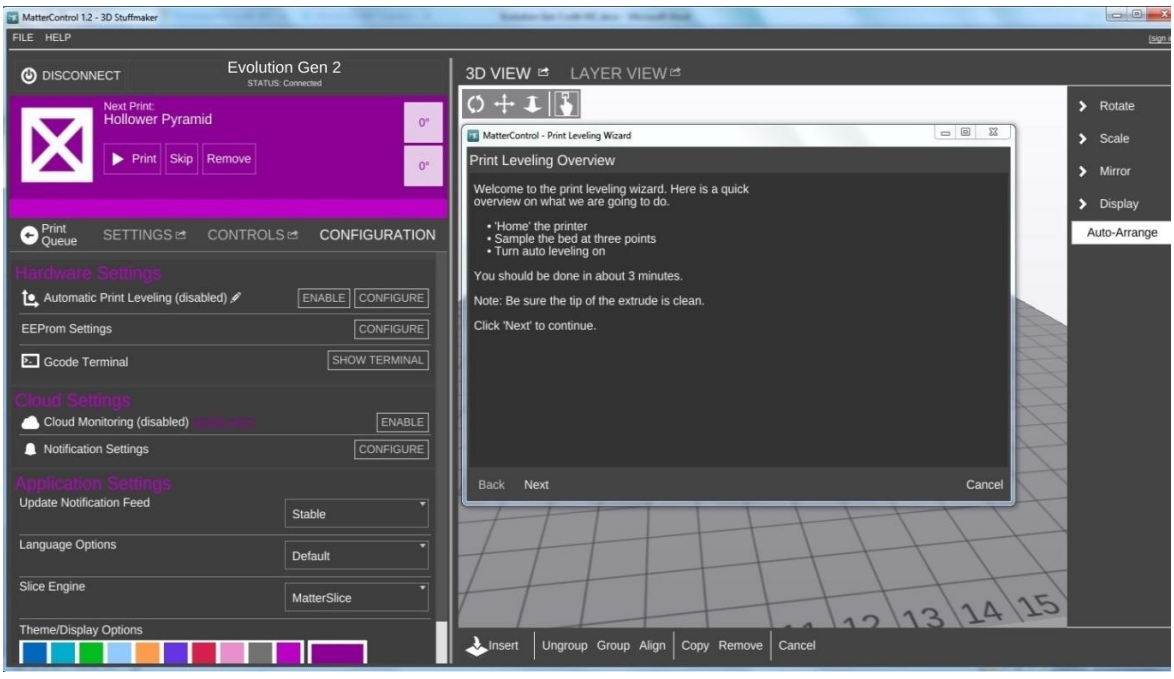
Step 1: Click "Advanced Controls" and click "Configuration tab"

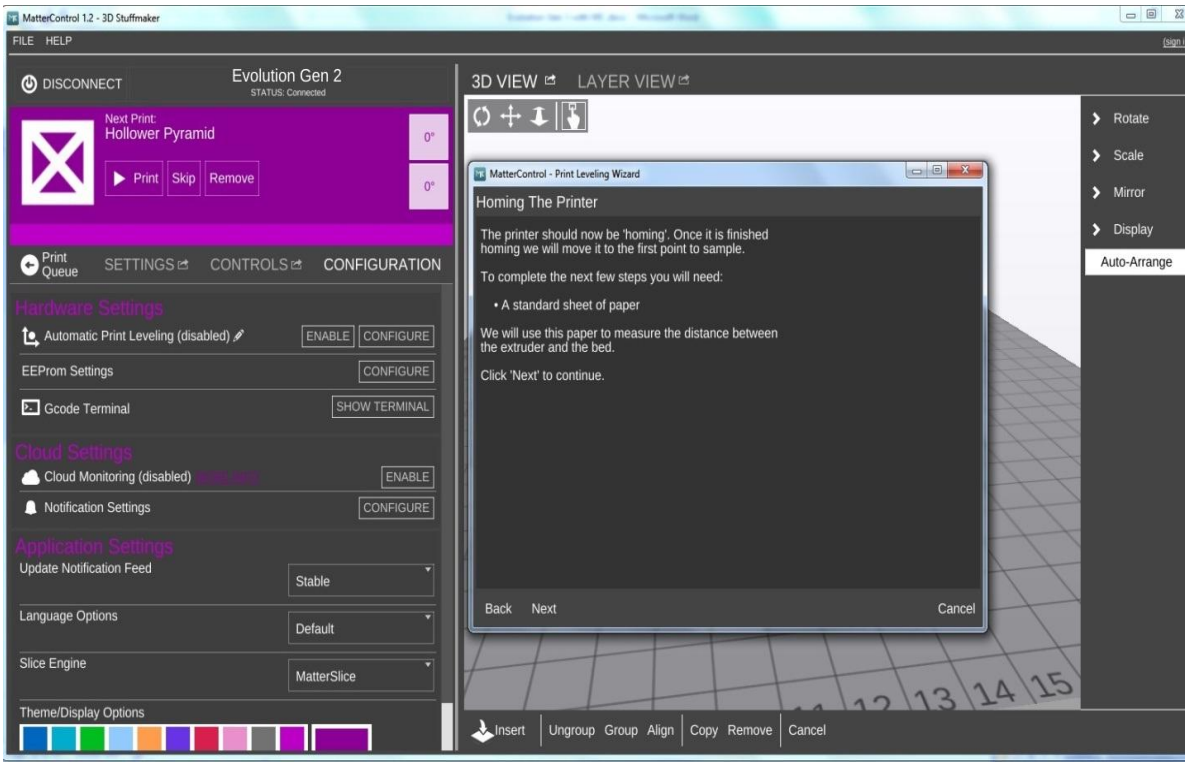
To the right of 'Automatic Print Leveling' select 'Configure'.

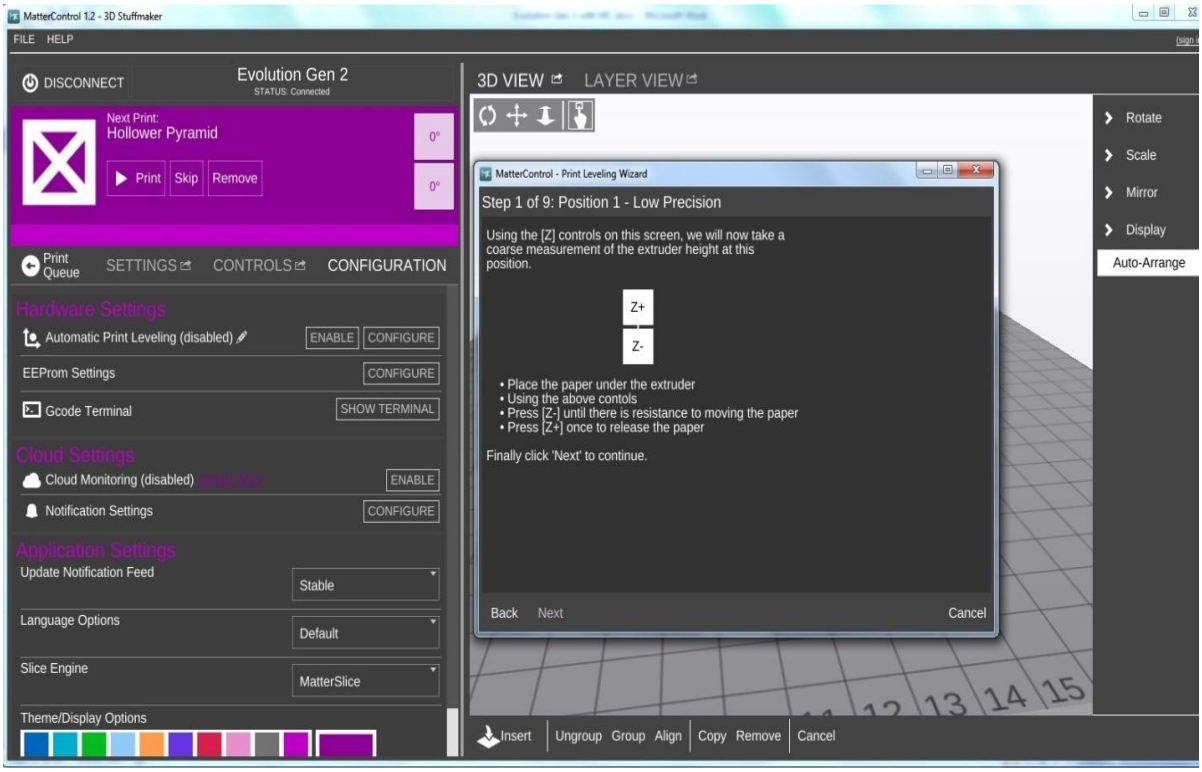
A step-by-step instruction wizard will open and walk you through the calibration process with clear, easy-to-follow instructions. The only thing you will need is a sheet of standard paper. The software will ask you to help it measure three points on your bed and when completed Print Leveling will automatically be turned on and ready to help. The whole process is very easy and will take about 3 to 5 minutes.

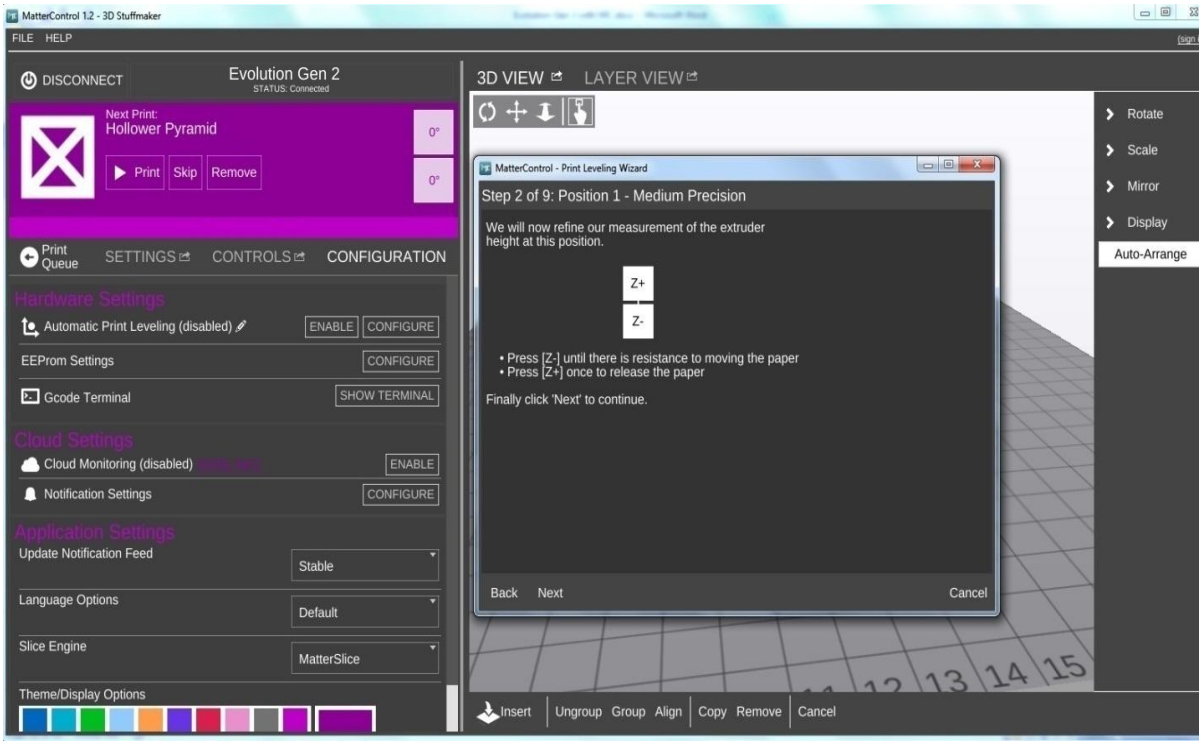


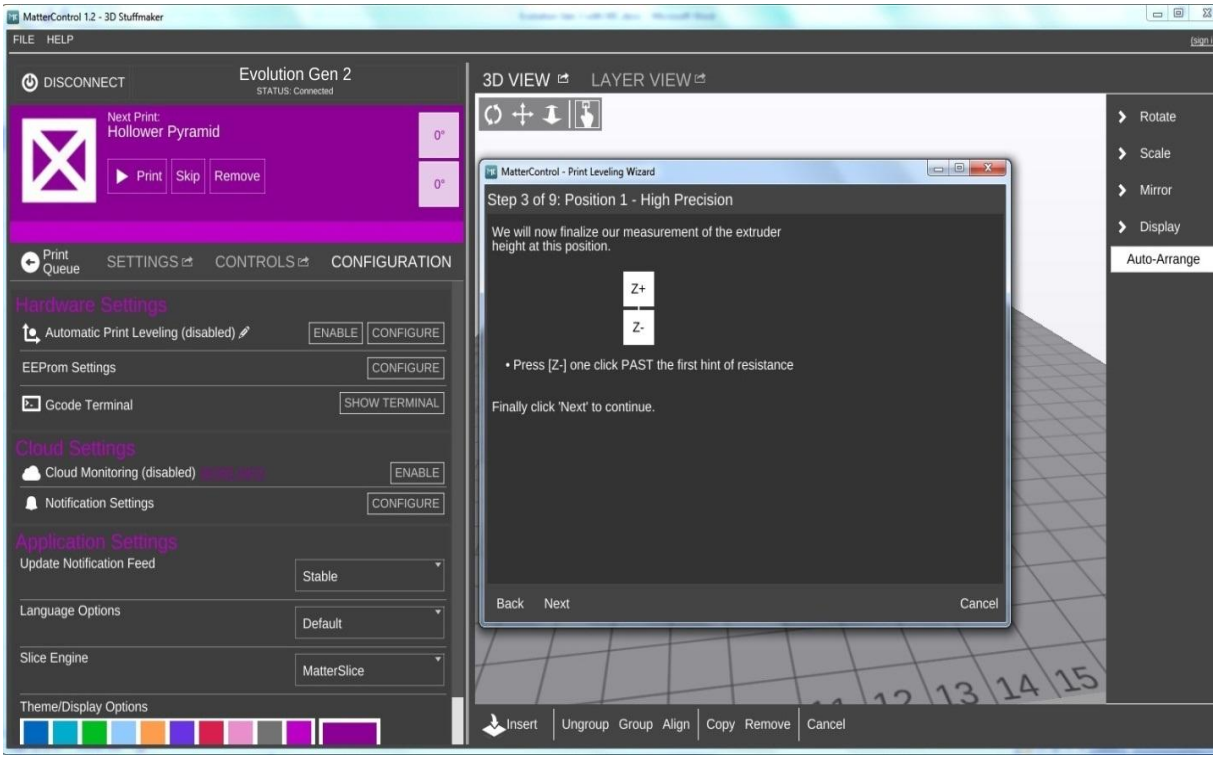
Read as per instructions in the following picture:

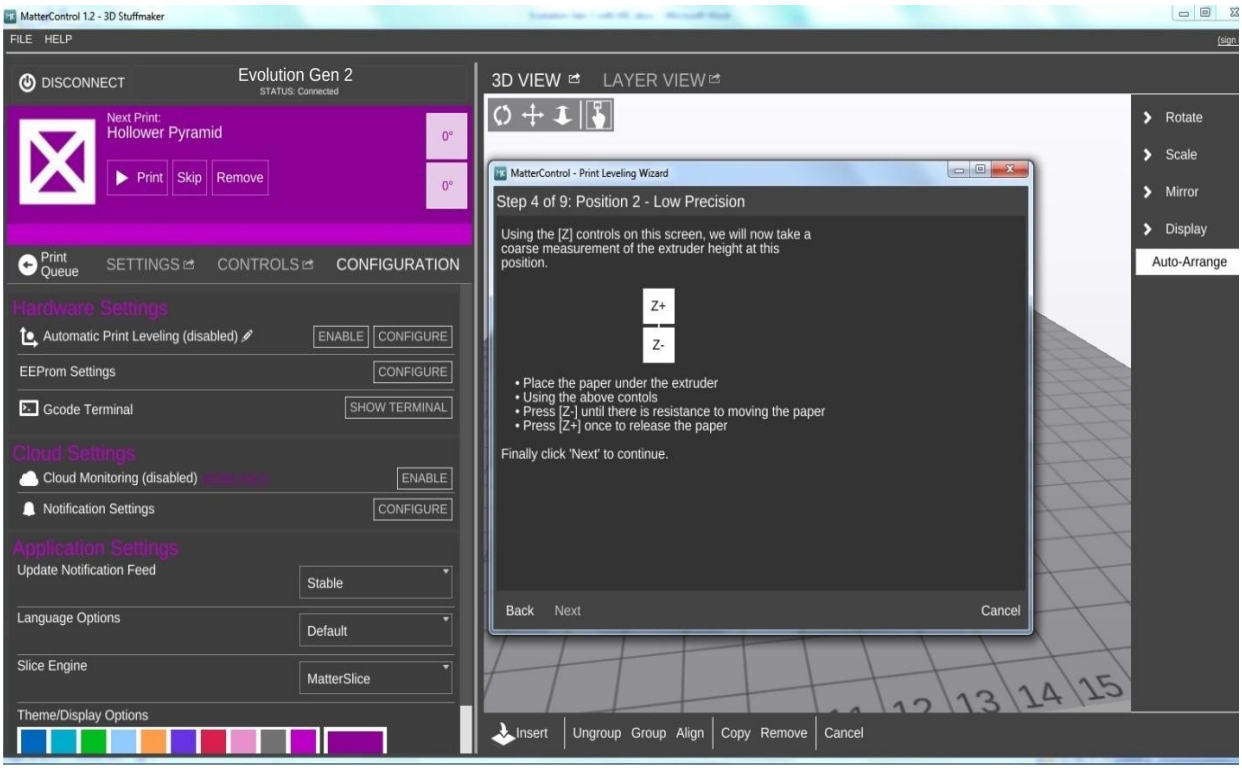


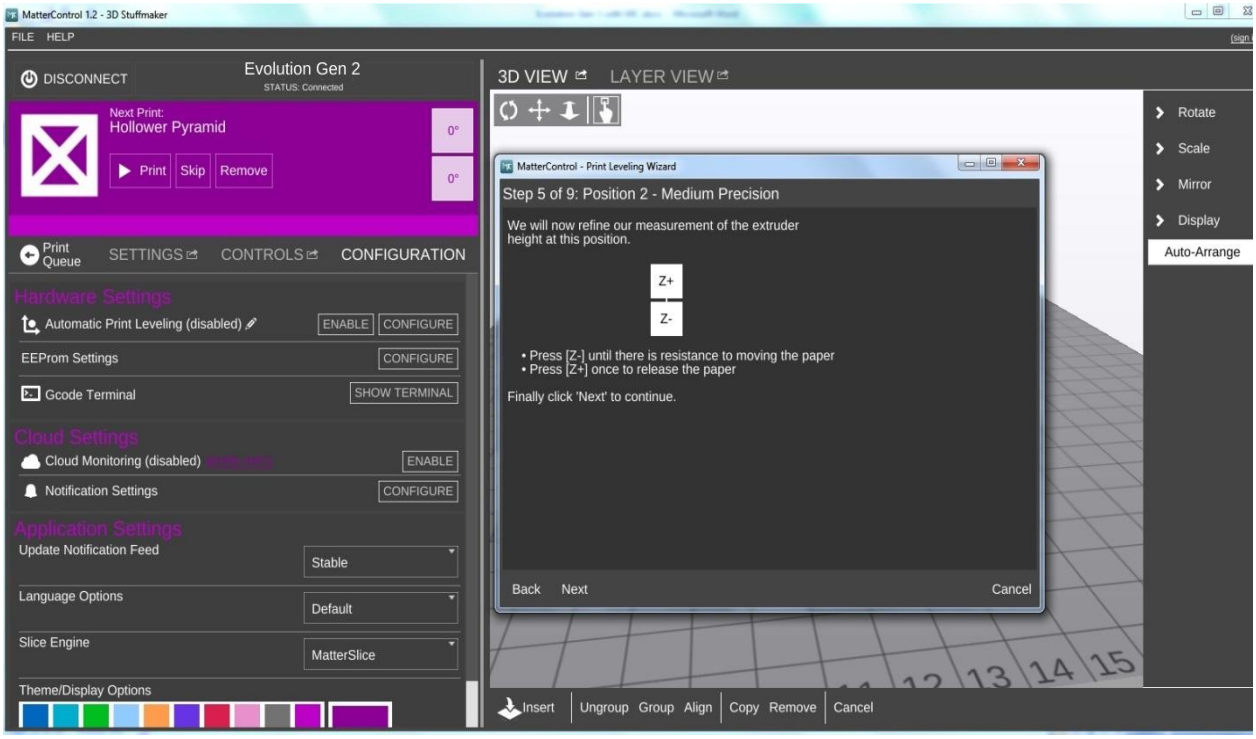

MatterControl 1.2 - 3D Stuffmaker
FILE HELP
DISCONNECT
Evolution Gen 2
STATUS: Connected
Next Print:
Hollower Pyramid
Print Skip Remove
0°
0°
Print Queue
SETTINGS
CONTROLS
CONFIGURATION
Hardware Settings
Automatic Print Leveling (disabled)
ENABLE CONFIGURE
EEProm Settings
CONFIGURE
Gcode Terminal
SHOW TERMINAL
Cloud Settings
Cloud Monitoring (disabled)
ENABLE
Notification Settings
CONFIGURE
Application Settings
Update Notification Feed
Stable
Language Options
Default
Slice Engine
MatterSlice
Theme/Display Options
3D VIEW
LAYER VIEW
Rotate
Scale
Mirror
Display
Auto-Arrange
MatterControl - Print Leveling Wizard
Homing The Printer
The printer should now be 'homing'. Once it is finished homing we will move it to the first point to sample.
To complete the next few steps you will need:
• A standard sheet of paper
We will use this paper to measure the distance between the extruder and the bed.
Click 'Next' to continue.
Back Next Cancel
Insert Ungroup Group Align Copy Remove Cancel

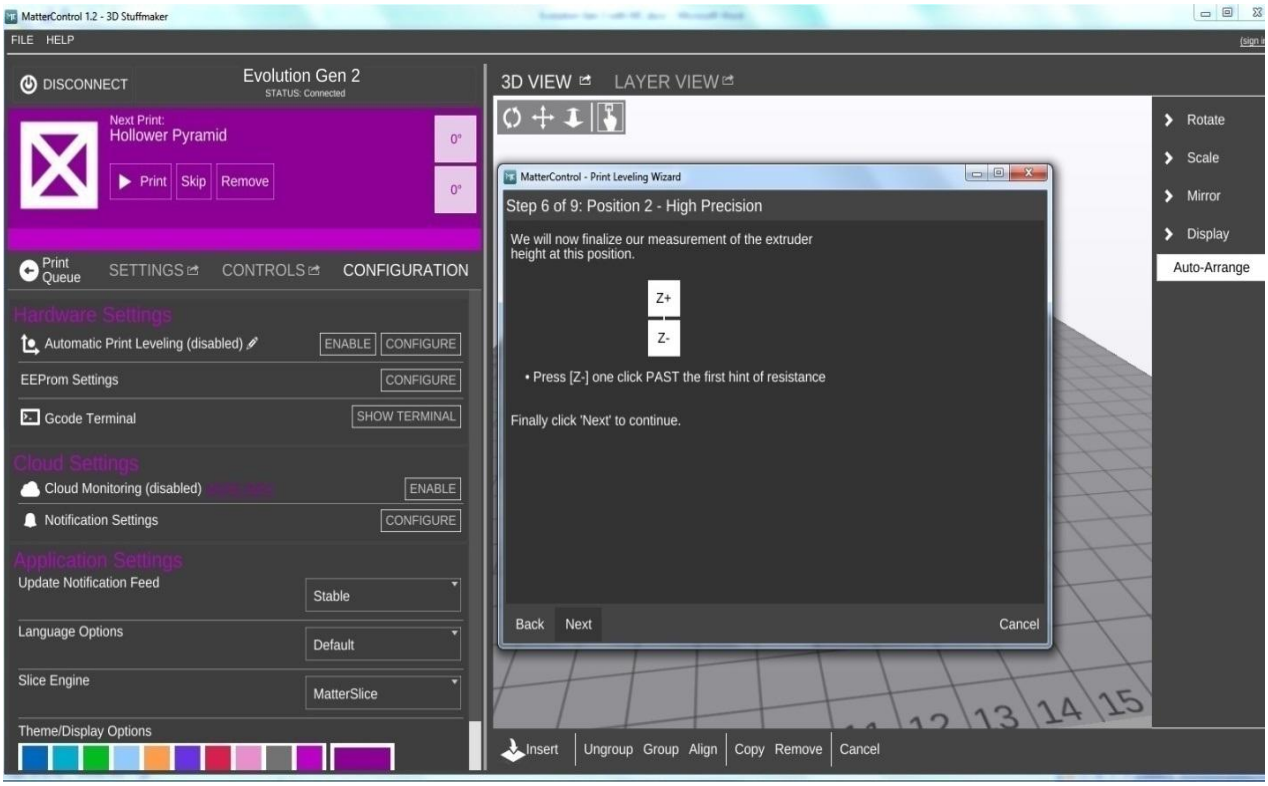

MatterControl 1.2 - 3D Stuffmaker
FILE HELP
DISCONNECT
Evolution Gen 2
STATUS: Connected
Next Print:
Hollower Pyramid
Print Skip Remove
0°
0°
Print Queue
SETTINGS
CONTROLS
CONFIGURATION
Hardware Settings
Automatic Print Leveling (disabled)
ENABLE CONFIGURE
EEProm Settings
CONFIGURE
Gcode Terminal
SHOW TERMINAL
Cloud Settings
Cloud Monitoring (disabled)
ENABLE
Notification Settings
CONFIGURE
Application Settings
Update Notification Feed
Stable
Language Options
Default
Slice Engine
MatterSlice
Theme/Display Options
3D VIEW
LAYER VIEW
Rotate
Scale
Mirror
Display
Auto-Arrange
MatterControl - Print Leveling Wizard
Step 1 of 9: Position 1 - Low Precision
Using the [Z] controls on this screen, we will now take a coarse measurement of the extruder height at this position.
Z+
Z-
• Place the paper under the extruder
• Using the above contols
• Press [Z-] until there is resistance to moving the paper
• Press [Z+] once to release the paper
Finally click 'Next' to continue.
Back Next Cancel
Insert Ungroup Group Align Copy Remove Cancel

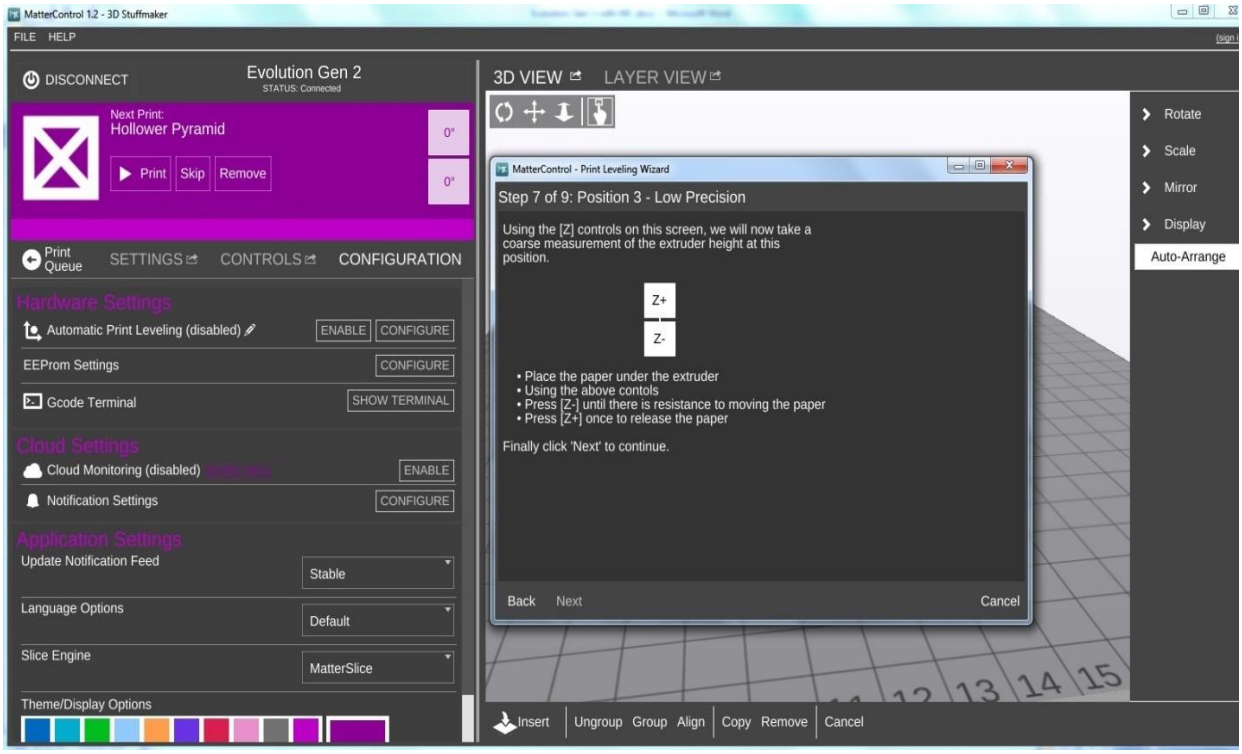

MatterControl 1.2 - 3D Stuffmaker
FILE HELP
DISCONNECT
Evolution Gen 2
STATUS: Connected
Next Print:
Hollower Pyramid
Print Skip Remove
0°
0°
Print Queue SETTINGS CONTROLS CONFIGURATION
Hardware Settings
Automatic Print Leveling (disabled) ENABLE CONFIGURE
EEProm Settings CONFIGURE
Gcode Terminal SHOW TERMINAL
Cloud Settings
Cloud Monitoring (disabled) ENABLE
Notification Settings CONFIGURE
Application Settings
Update Notification Feed Stable
Language Options Default
Slice Engine MatterSlice
Theme/Display Options
3D VIEW LAYER VIEW
Rotate
Scale
Mirror
Display
Auto-Arrange
MatterControl - Print Leveling Wizard
Step 2 of 9: Position 1 - Medium Precision
We will now refine our measurement of the extruder height at this position.
Z+
Z-
• Press [Z-] until there is resistance to moving the paper
• Press [Z+] once to release the paper
Finally click 'Next' to continue.
Back Next Cancel
Insert Ungroup Group Align Copy Remove Cancel

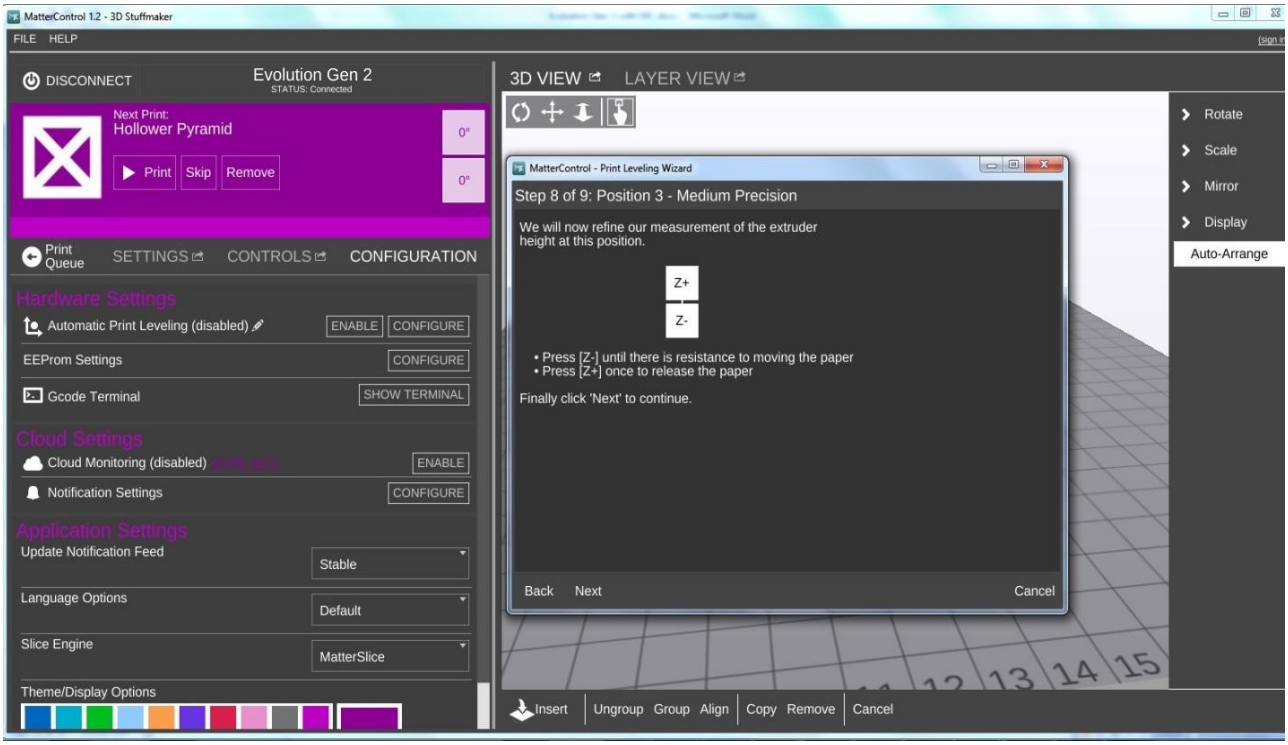

MatterControl 1.2 - 3D Stuffmaker
FILE HELP
DISCONNECT
Evolution Gen 2
STATUS: Connected
Next Print:
Hollower Pyramid
Print Skip Remove
0°
0°
Print Queue SETTINGS CONTROLS CONFIGURATION
Hardware Settings
Automatic Print Leveling (disabled) ENABLE CONFIGURE
EEProm Settings CONFIGURE
Gcode Terminal SHOW TERMINAL
Cloud Settings
Cloud Monitoring (disabled) ENABLE
Notification Settings CONFIGURE
Application Settings
Update Notification Feed Stable
Language Options Default
Slice Engine MatterSlice
Theme/Display Options
3D VIEW LAYER VIEW
Rotate
Scale
Mirror
Display
Auto-Arrange
MatterControl - Print Leveling Wizard
Step 3 of 9: Position 1 - High Precision
We will now finalize our measurement of the extruder height at this position.
Z+
Z-
• Press [Z-] one click PAST the first hint of resistance
Finally click 'Next' to continue.
Back Next Cancel
Insert Ungroup Group Align Copy Remove Cancel

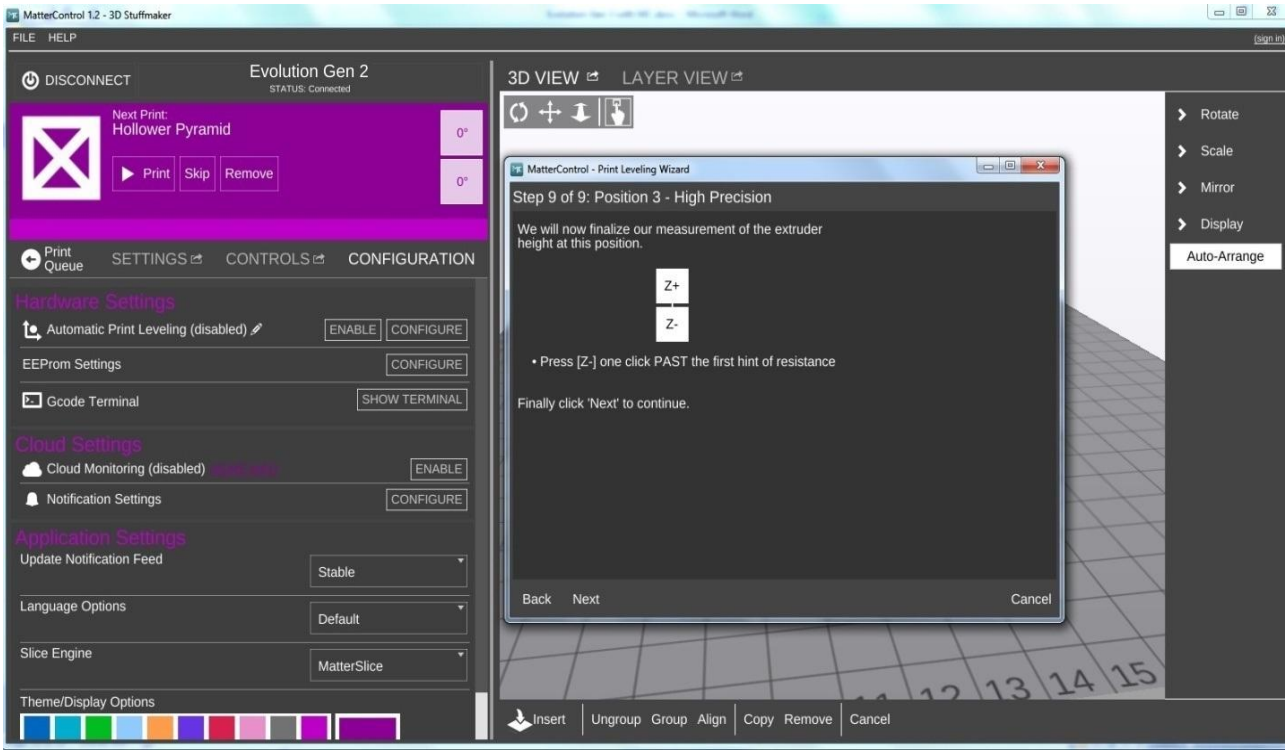

MatterControl 1.2 - 3D Stuffmaker
FILE HELP
DISCONNECT
Evolution Gen 2
STATUS: Connected
Next Print:
Hollower Pyramid
Print Skip Remove
0°
0°
Print Queue
SETTINGS
CONTROLS
CONFIGURATION
Hardware Settings
Automatic Print Leveling (disabled)
ENABLE CONFIGURE
EEProm Settings
CONFIGURE
Gcode Terminal
SHOW TERMINAL
Cloud Settings
Cloud Monitoring (disabled)
ENABLE
Notification Settings
CONFIGURE
Application Settings
Update Notification Feed
Stable
Language Options
Default
Slice Engine
MatterSlice
Theme/Display Options
3D VIEW
LAYER VIEW
Rotate
Scale
Mirror
Display
Auto-Arrange
MatterControl - Print Leveling Wizard
Step 4 of 9: Position 2 - Low Precision
Using the [Z] controls on this screen, we will now take a coarse measurement of the extruder height at this position.
Z+
Z-
• Place the paper under the extruder
• Using the above contols
• Press [Z-] until there is resistance to moving the paper
• Press [Z+] once to release the paper
Finally click 'Next' to continue.
Back Next Cancel
Insert Ungroup Group Align Copy Remove Cancel

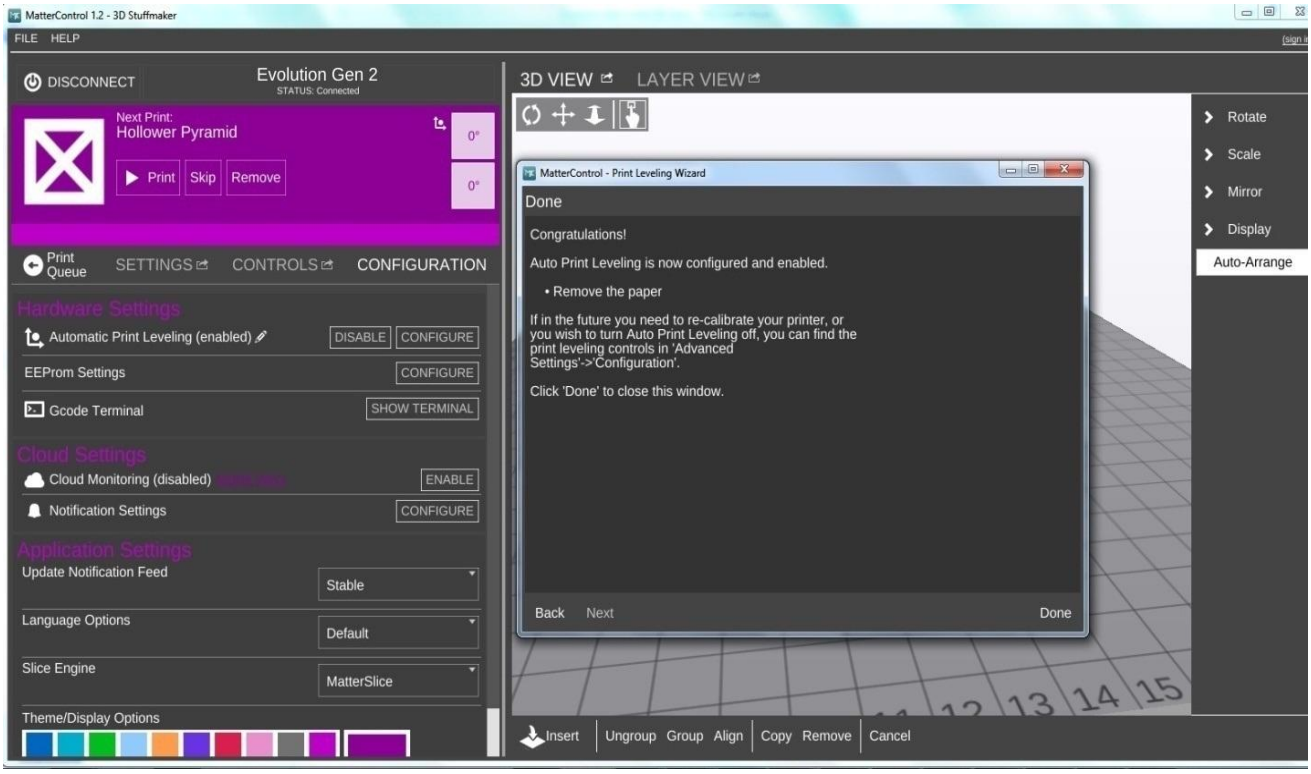

MatterControl 1.2 - 3D Stuffmaker
FILE HELP
DISCONNECT
Evolution Gen 2
STATUS: Connected
Next Print:
Hollower Pyramid
Print Skip Remove
0°
0°
Print Queue
SETTINGS
CONTROLS
CONFIGURATION
Hardware Settings
Automatic Print Leveling (disabled)
ENABLE CONFIGURE
EEProm Settings
CONFIGURE
Gcode Terminal
SHOW TERMINAL
Cloud Settings
Cloud Monitoring (disabled)
ENABLE
Notification Settings
CONFIGURE
Application Settings
Update Notification Feed
Stable
Language Options
Default
Slice Engine
MatterSlice
Theme/Display Options
3D VIEW
LAYER VIEW
Rotate
Scale
Mirror
Display
Auto-Arrange
MatterControl - Print Leveling Wizard
Step 5 of 9: Position 2 - Medium Precision
We will now refine our measurement of the extruder height at this position.
Z+
Z-
• Press [Z-] until there is resistance to moving the paper
• Press [Z+] once to release the paper
Finally click 'Next' to continue.
Back Next Cancel
Insert Ungroup Group Align Copy Remove Cancel


MatterControl 1.2 - 3D Stuffmaker
FILE HELP
DISCONNECT
Evolution Gen 2
STATUS: Connected
Next Print:
Hollower Pyramid
Print Skip Remove
0°
0°
Print Queue SETTINGS CONTROLS CONFIGURATION
Hardware Settings
Automatic Print Leveling (disabled) ENABLE CONFIGURE
EEProm Settings CONFIGURE
Gcode Terminal SHOW TERMINAL
Cloud Settings
Cloud Monitoring (disabled) ENABLE
Notification Settings CONFIGURE
Application Settings
Update Notification Feed Stable
Language Options Default
Slice Engine MatterSlice
Theme/Display Options
3D VIEW LAYER VIEW
Rotate
Scale
Mirror
Display
Auto-Arrange
MatterControl - Print Leveling Wizard
Step 6 of 9: Position 2 - High Precision
We will now finalize our measurement of the extruder height at this position.
Z+
Z-
• Press [Z-] one click PAST the first hint of resistance
Finally click 'Next' to continue.
Back Next Cancel
Insert Ungroup Group Align Copy Remove Cancel


MatterControl 1.2 - 3D Stuffmaker
FILE HELP
DISCONNECT
Evolution Gen 2
STATUS: Connected
Next Print:
Hollower Pyramid
Print Skip Remove
0°
0°
Print Queue SETTINGS CONTROLS CONFIGURATION
Hardware Settings
Automatic Print Leveling (disabled) ENABLE CONFIGURE
EEProm Settings CONFIGURE
Gcode Terminal SHOW TERMINAL
Cloud Settings
Cloud Monitoring (disabled) ENABLE
Notification Settings CONFIGURE
Application Settings
Update Notification Feed Stable
Language Options Default
Slice Engine MatterSlice
Theme/Display Options
3D VIEW LAYER VIEW
Rotate
Scale
Mirror
Display
Auto-Arrange
MatterControl - Print Leveling Wizard
Step 7 of 9: Position 3 - Low Precision
Using the [Z] controls on this screen, we will now take a coarse measurement of the extruder height at this position.
Z+
Z-
• Place the paper under the extruder
• Using the above contols
• Press [Z-] until there is resistance to moving the paper
• Press [Z+] once to release the paper
Finally click 'Next' to continue.
Back Next Cancel
Insert Ungroup Group Align Copy Remove Cancel

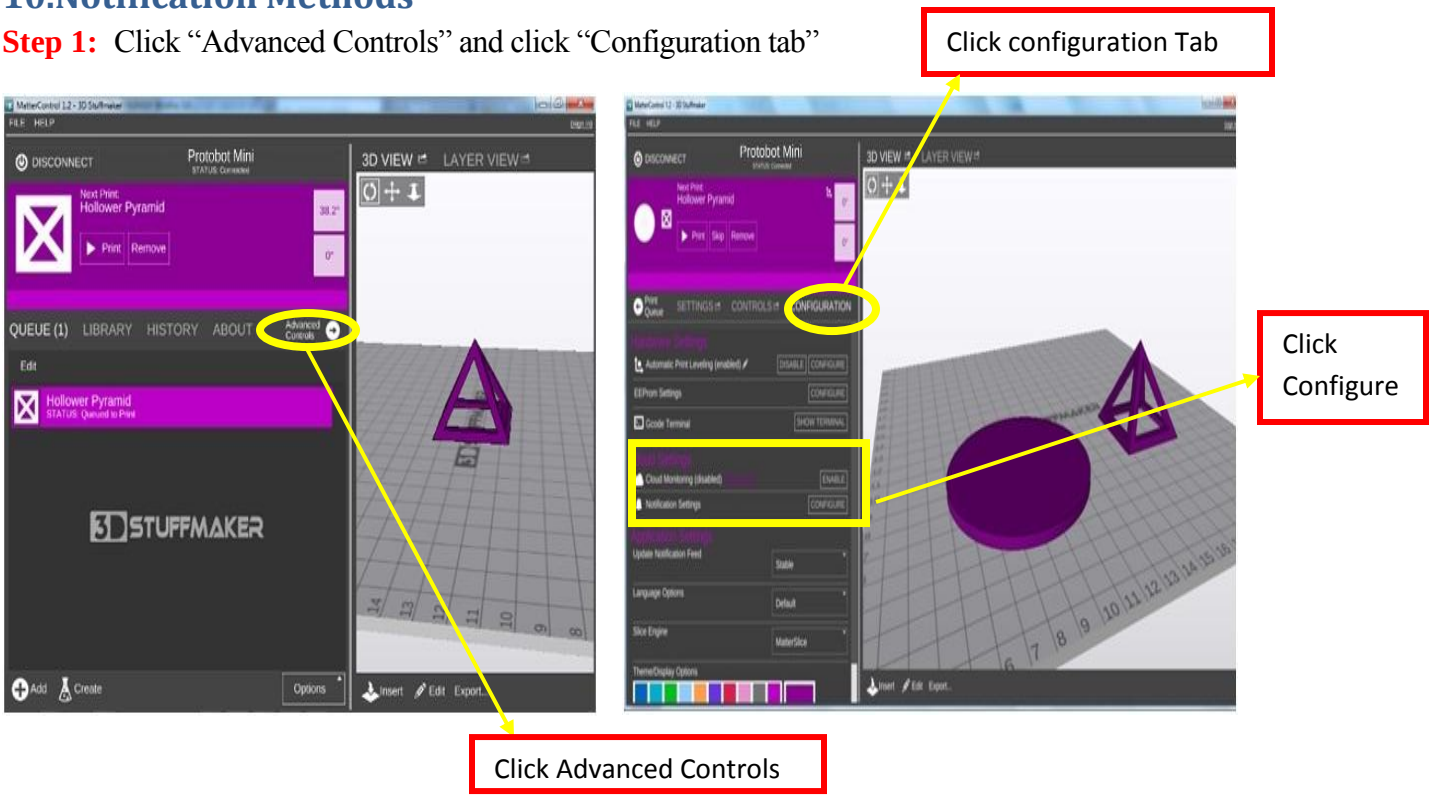

MatterControl 1.2 - 3D Stuffmaker
FILE HELP
DISCONNECT
Evolution Gen 2
STATUS: Connected
Next Print:
Hollower Pyramid
Print Skip Remove
0°
0°
Print Queue SETTINGS CONTROLS CONFIGURATION
Hardware Settings
Automatic Print Leveling (disabled) ENABLE CONFIGURE
EEProm Settings CONFIGURE
Gcode Terminal SHOW TERMINAL
Cloud Settings
Cloud Monitoring (disabled) ENABLE
Notification Settings CONFIGURE
Application Settings
Update Notification Feed Stable
Language Options Default
Slice Engine MatterSlice
Theme/Display Options
3D VIEW LAYER VIEW
Rotate
Scale
Mirror
Display
Auto-Arrange
MatterControl - Print Leveling Wizard
Step 8 of 9: Position 3 - Medium Precision
We will now refine our measurement of the extruder height at this position.
Z+
Z-
• Press [Z-] until there is resistance to moving the paper
• Press [Z+] once to release the paper
Finally click 'Next' to continue.
Back Next Cancel
Insert Ungroup Group Align Copy Remove Cancel

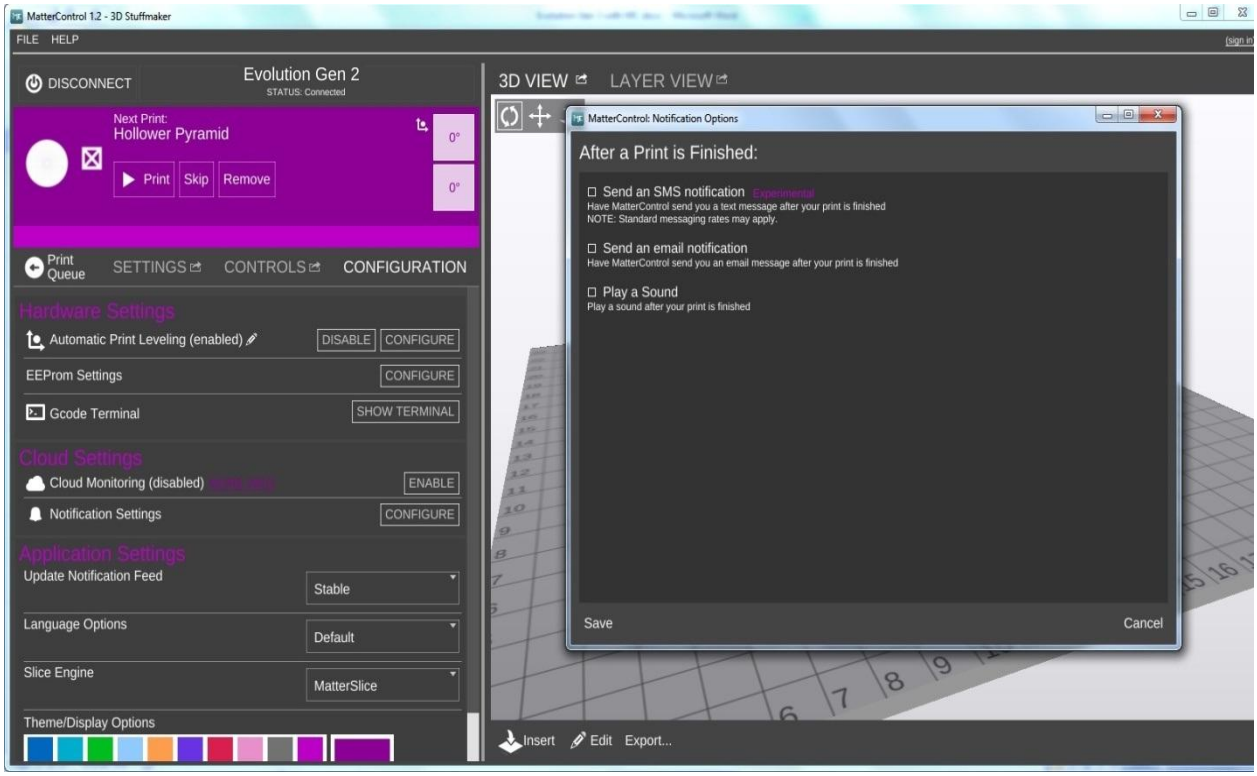

MatterControl 1.2 - 3D Stuffmaker
FILE HELP
DISCONNECT
Evolution Gen 2
STATUS: Connected
Next Print:
Hollower Pyramid
Print Skip Remove
0°
0°
Print Queue SETTINGS CONTROLS CONFIGURATION
Hardware Settings
Automatic Print Leveling (disabled) ENABLE CONFIGURE
EEProm Settings CONFIGURE
Gcode Terminal SHOW TERMINAL
Cloud Settings
Cloud Monitoring (disabled) ENABLE
Notification Settings CONFIGURE
Application Settings
Update Notification Feed Stable
Language Options Default
Slice Engine MatterSlice
Theme/Display Options
3D VIEW LAYER VIEW
Rotate
Scale
Mirror
Display
Auto-Arrange
MatterControl - Print Leveling Wizard
Step 9 of 9: Position 3 - High Precision
We will now finalize our measurement of the extruder height at this position.
Z+
Z-
• Press [Z-] one click PAST the first hint of resistance
Finally click 'Next' to continue.
Back Next Cancel
Insert Ungroup Group Align Copy Remove Cancel



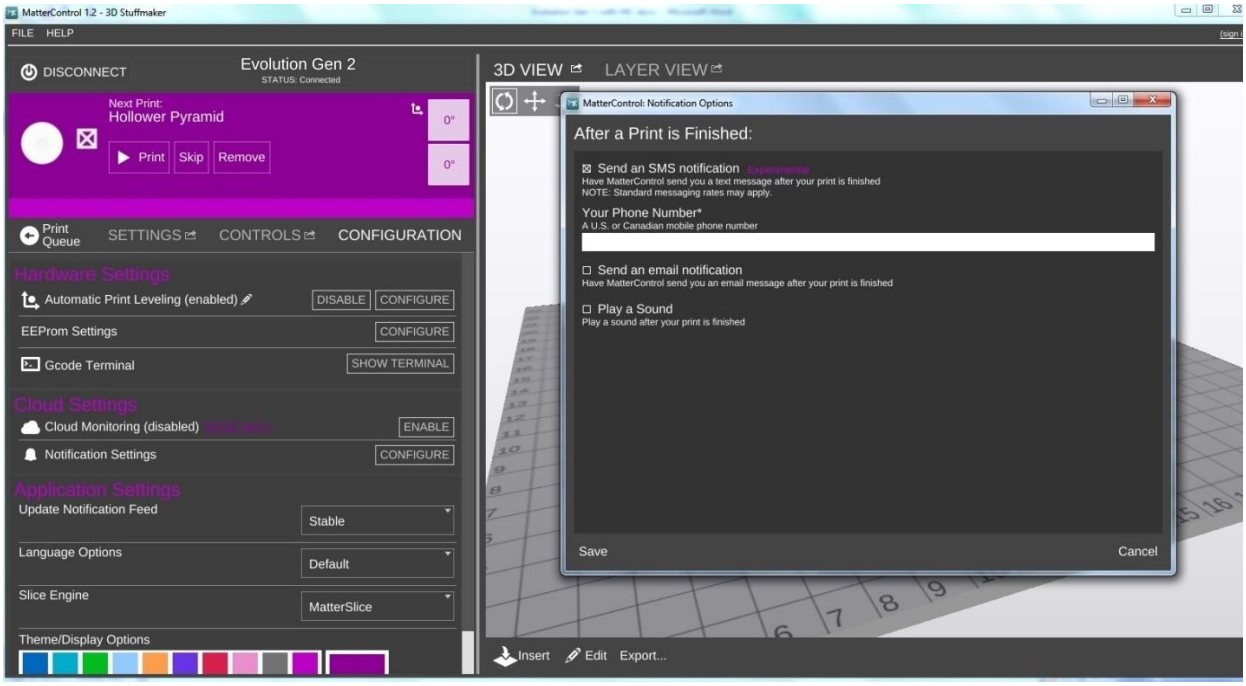
10.Notification Methods

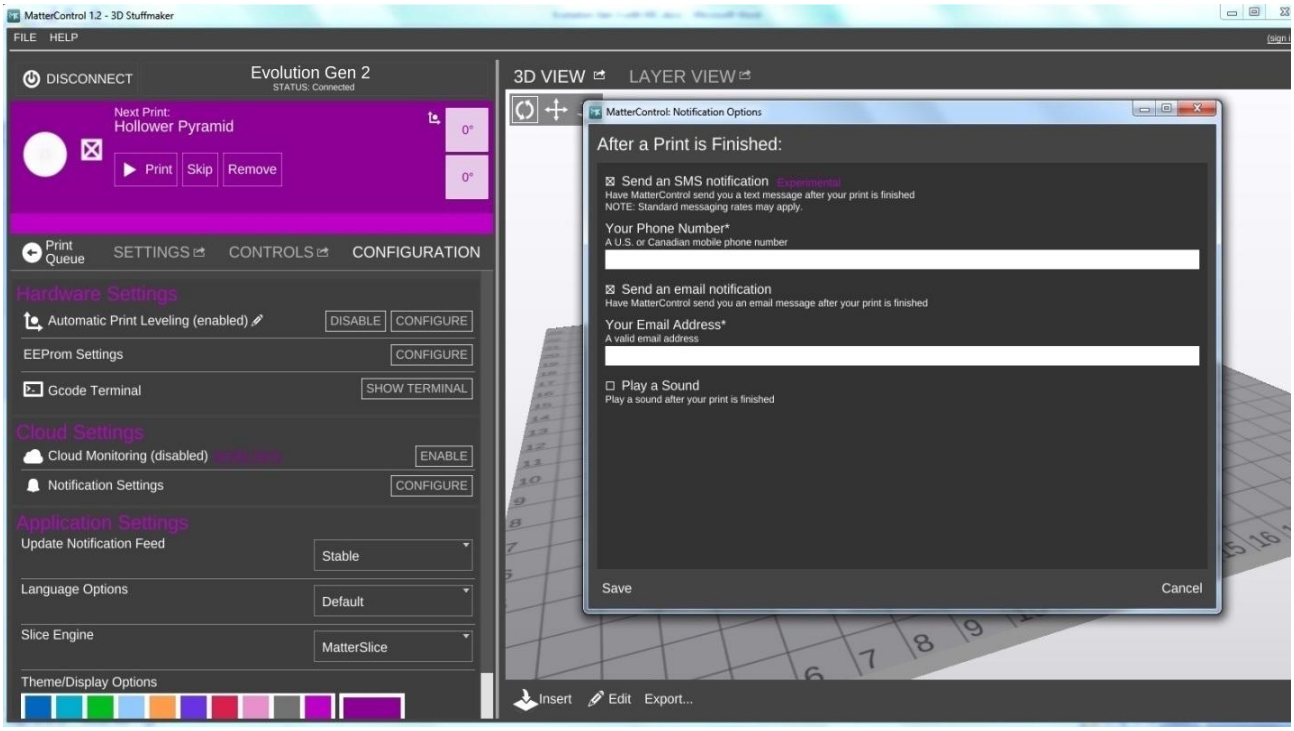
Step 1: Click "Advanced Controls" and click "Configuration tab"

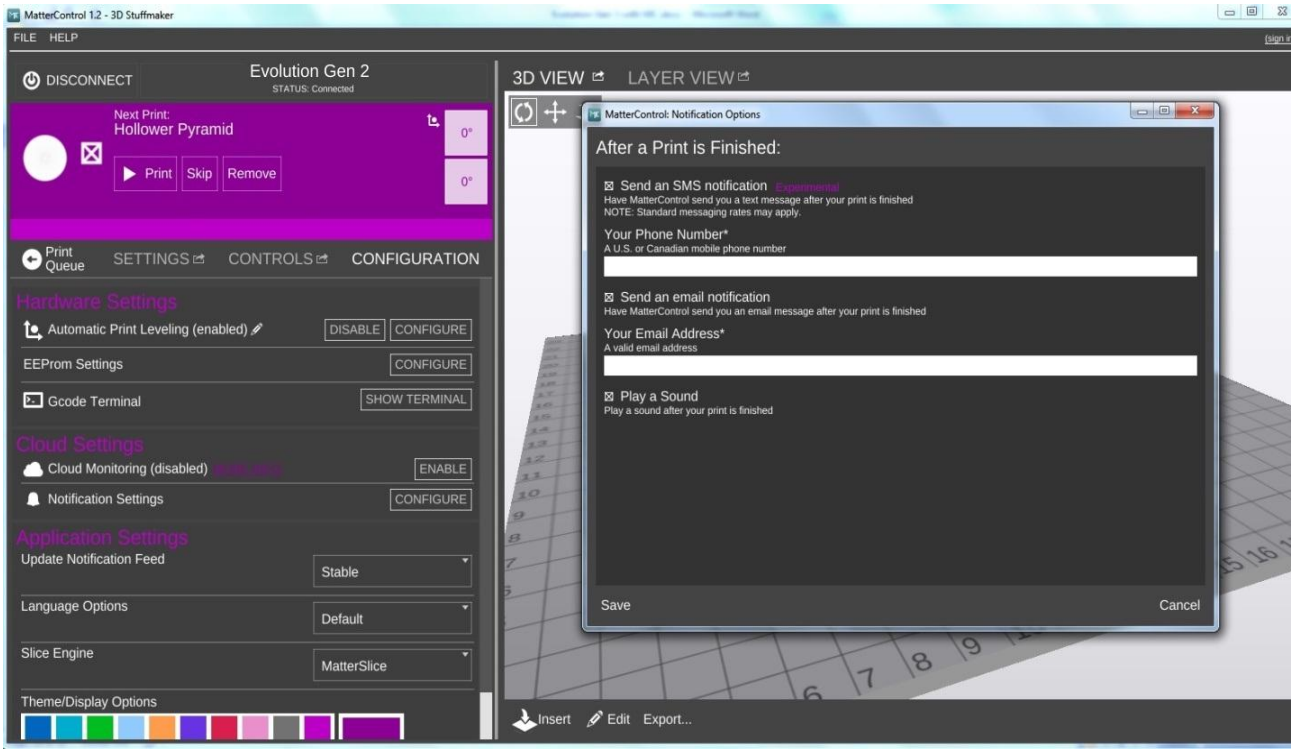




Matter Control has three ways to notify someone when their print has finished. Users can select any or all of them. These features can be found by clicking on the 'Configuration' tab and is located underneath "Cloud Settings".




MatterControl 1.2 - 3D Stuffmaker
FILE HELP
DISCONNECT
Evolution Gen 2
STATUS: Connected
Next Print:
Hollower Pyramid
Print Skip Remove
0°
0°
Print Queue SETTINGS CONTROLS CONFIGURATION
Hardware Settings
Automatic Print Leveling (enabled) DISABLE CONFIGURE
EEProm Settings CONFIGURE
Gcode Terminal SHOW TERMINAL
Cloud Settings
Cloud Monitoring (disabled) ENABLE
Notification Settings CONFIGURE
Application Settings
Update Notification Feed Stable
Language Options Default
Slice Engine MatterSlice
Theme/Display Options
3D VIEW LAYER VIEW
MatterControl: Notification Options
After a Print is Finished:
Send an SMS notification Experimental
Have MatterControl send you a text message after your print is finished
NOTE: Standard messaging rates may apply.
Your Phone Number*
A U.S. or Canadian mobile phone number
Send an email notification
Have MatterControl send you an email message after your print is finished
Your Email Address*
A valid email address
Play a Sound
Play a sound after your print is finished
Save
Cancel
Insert Edit Export...


MatterControl 1.2 - 3D Stuffmaker
FILE HELP
DISCONNECT
Evolution Gen 2
STATUS: Connected
Next Print:
Hollower Pyramid
Print Skip Remove
0°
0°
Print Queue SETTINGS CONTROLS CONFIGURATION
Hardware Settings
Automatic Print Leveling (enabled) DISABLE CONFIGURE
EEProm Settings CONFIGURE
Gcode Terminal SHOW TERMINAL
Cloud Settings
Cloud Monitoring (disabled) ENABLE
Notification Settings CONFIGURE
Application Settings
Update Notification Feed Stable
Language Options Default
Slice Engine MatterSlice
Theme/Display Options
3D VIEW LAYER VIEW
MatterControl: Notification Options
After a Print is Finished:
Send an SMS notification Experimental
Have MatterControl send you a text message after your print is finished
NOTE: Standard messaging rates may apply.
Your Phone Number*
A U.S. or Canadian mobile phone number
Send an email notification
Have MatterControl send you an email message after your print is finished
Your Email Address*
A valid email address
Play a Sound
Play a sound after your print is finished
Save
Cancel
Insert Edit Export...

10.1 Types of Notification Methods:

Text Notifications

In order to receive texts to your phone informing you of a finished print, you must enable **Text Notifications**. You may do this by checking the box, and entering your cell phone number below

Email Notifications

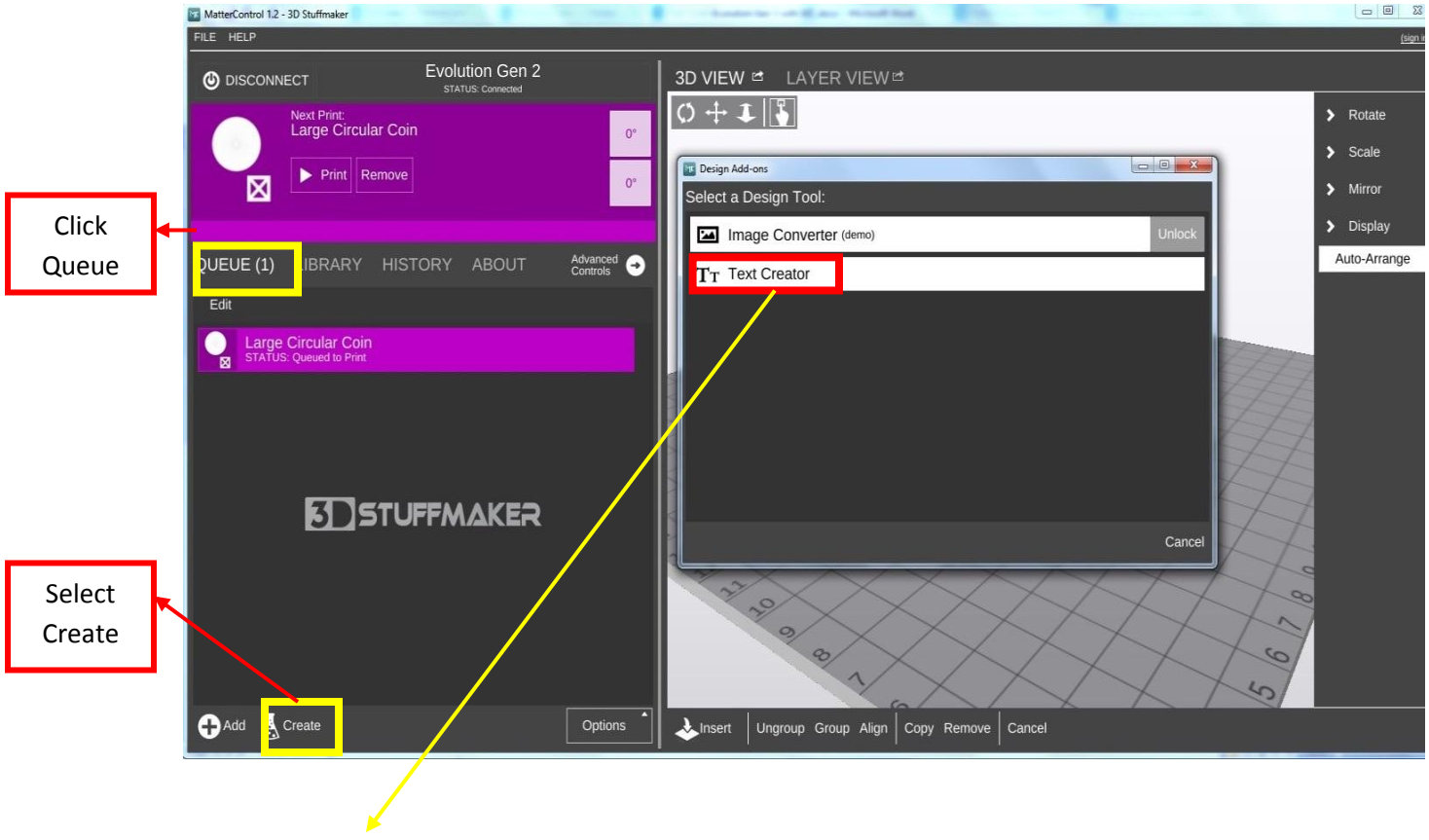
Check the box, and enter your email address below. You will receive a message letting you know when your print is complete.

Sound Notifications

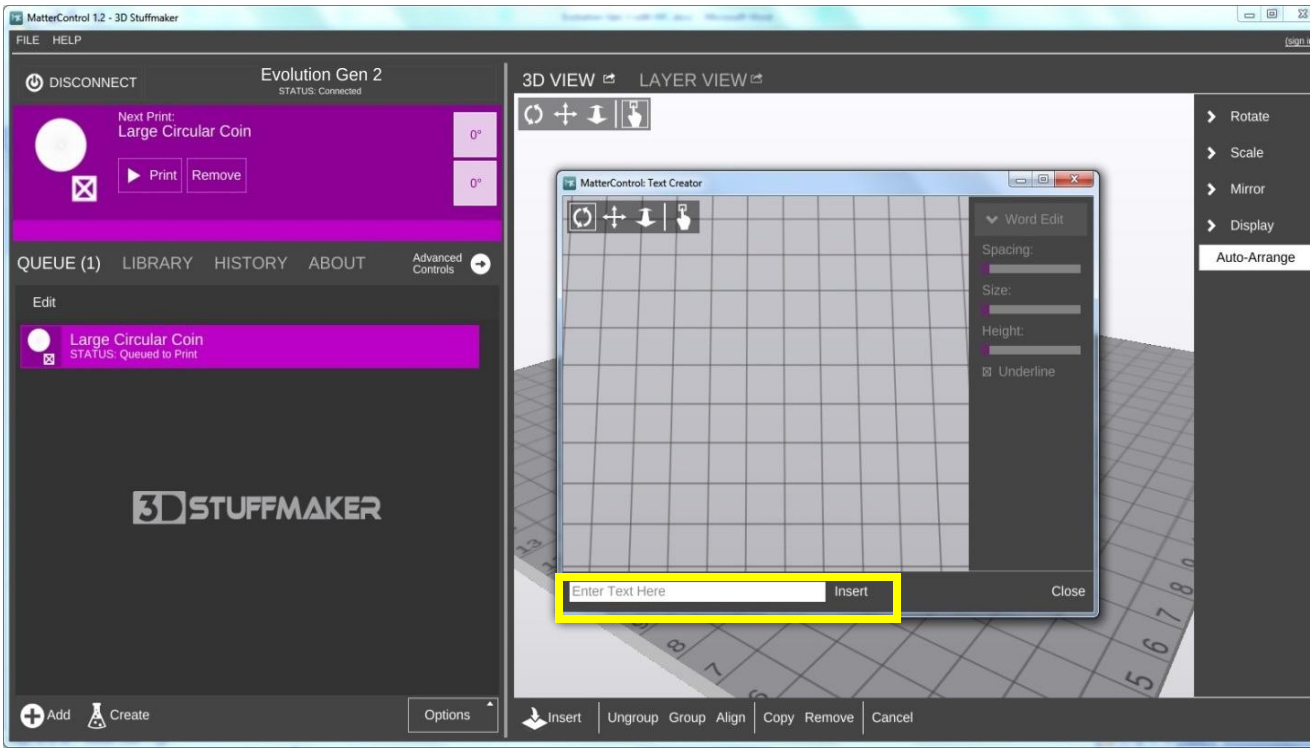
Your computer will make a sound similar to a bell ring when your print is finished.

11.Text Creator

Step 1: Click "Queue" and select the "Create" icon located on the bottom of the queue.

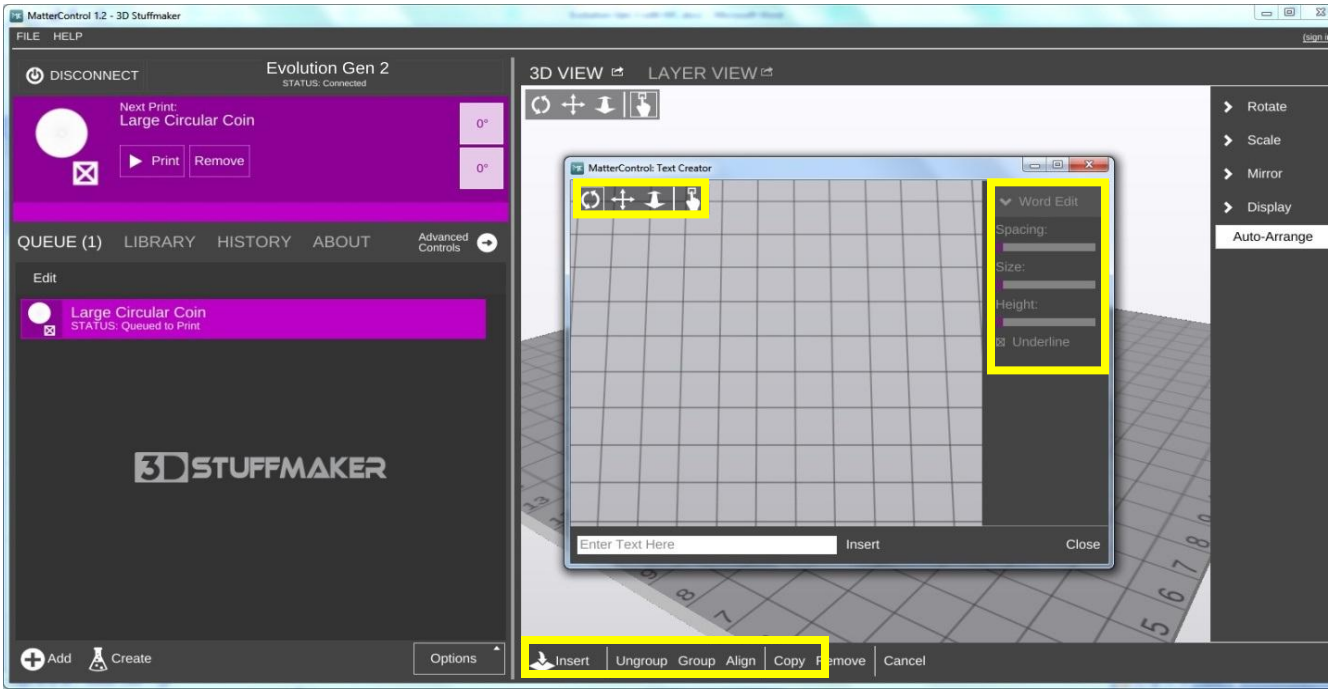


Click "Text Creator".

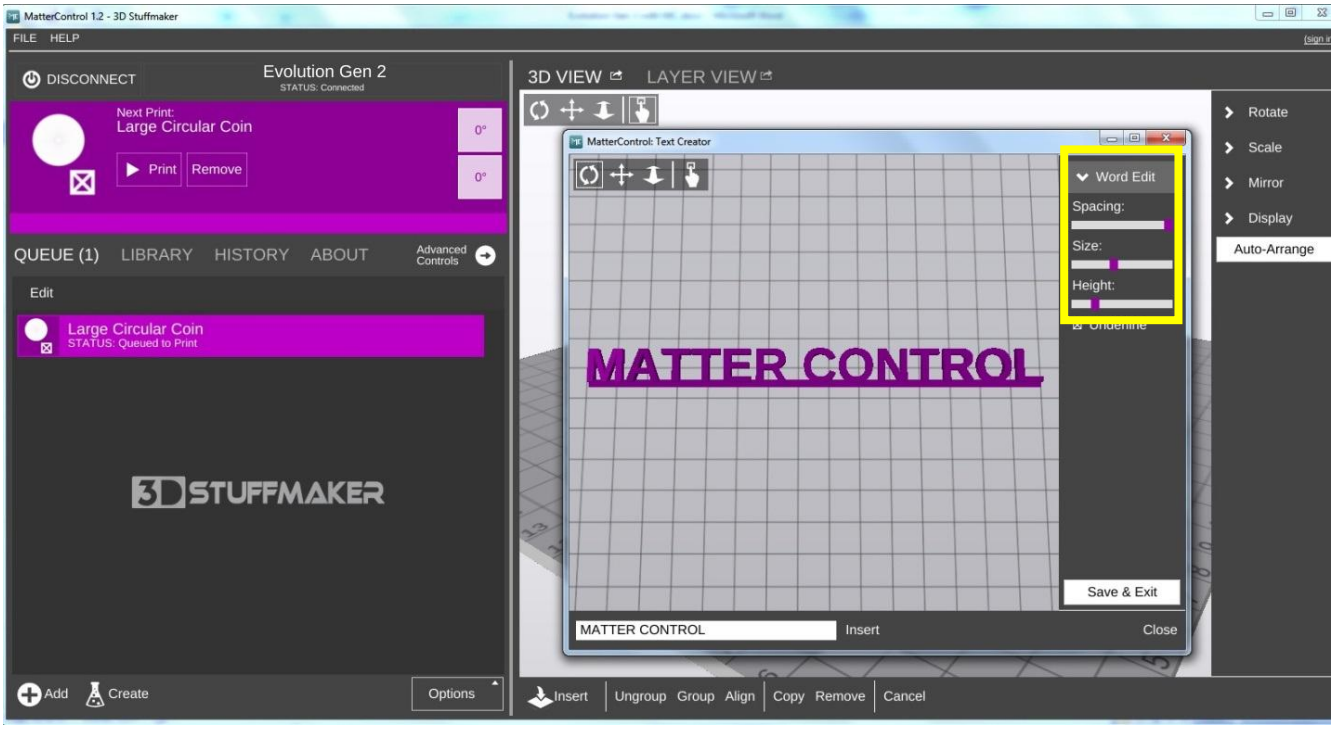


Text Creator:

The Text Creator is a simple design tool that will enable you to create printable text.



After inserting text, the **Word Edit** tools become enabled.



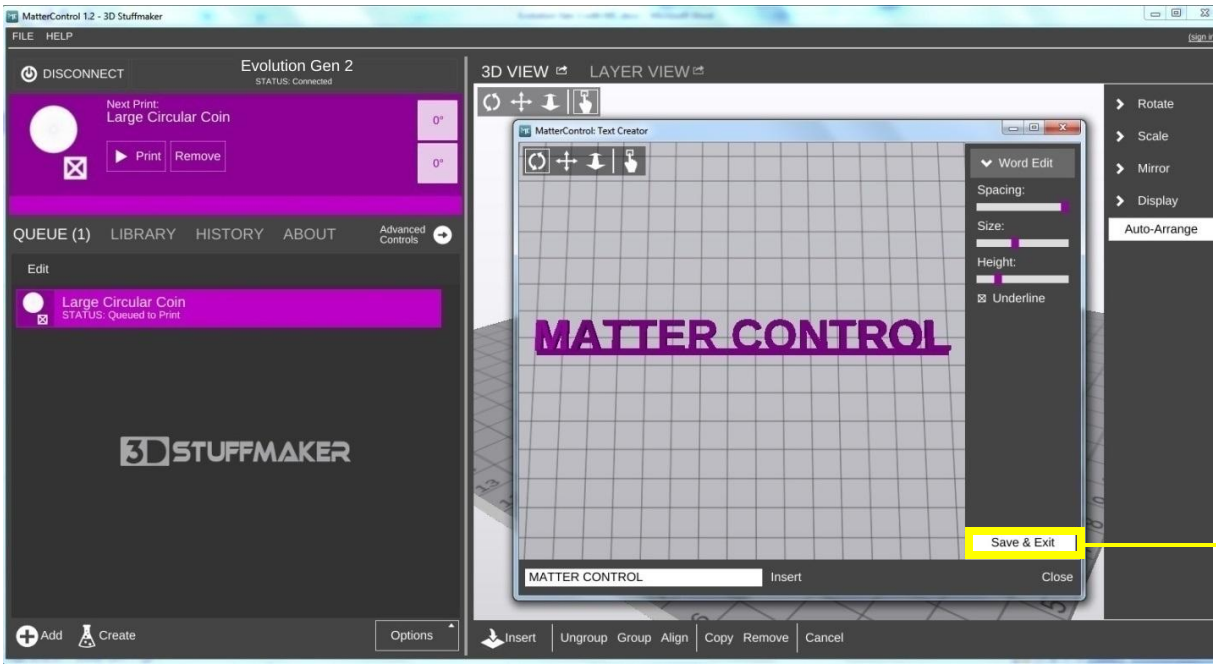
Spacing slider decreases or increases space between characters and is often used to connect characters.

Size slider decreases or increases the size of characters.

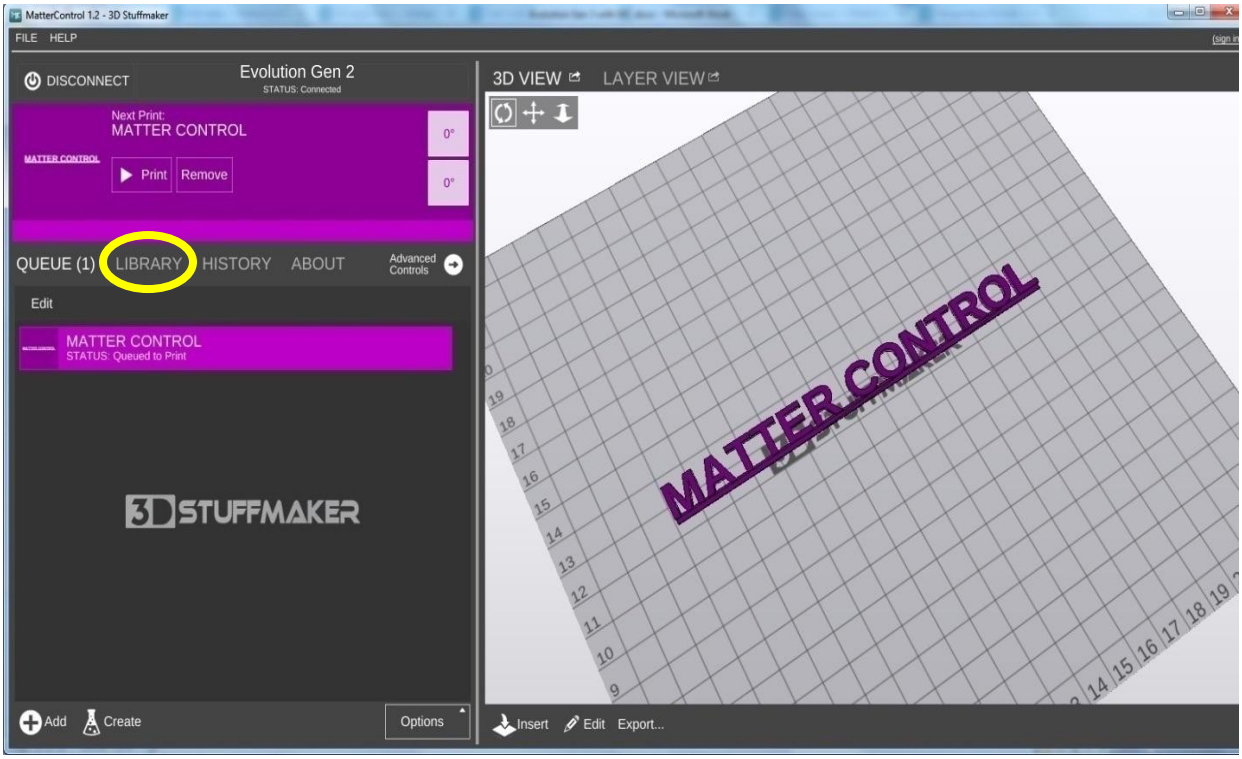
Height slider decreases or increases the height of characters.

Underline tool creates a cubed base to connect every character.

When done editing, select **Save and Exit**

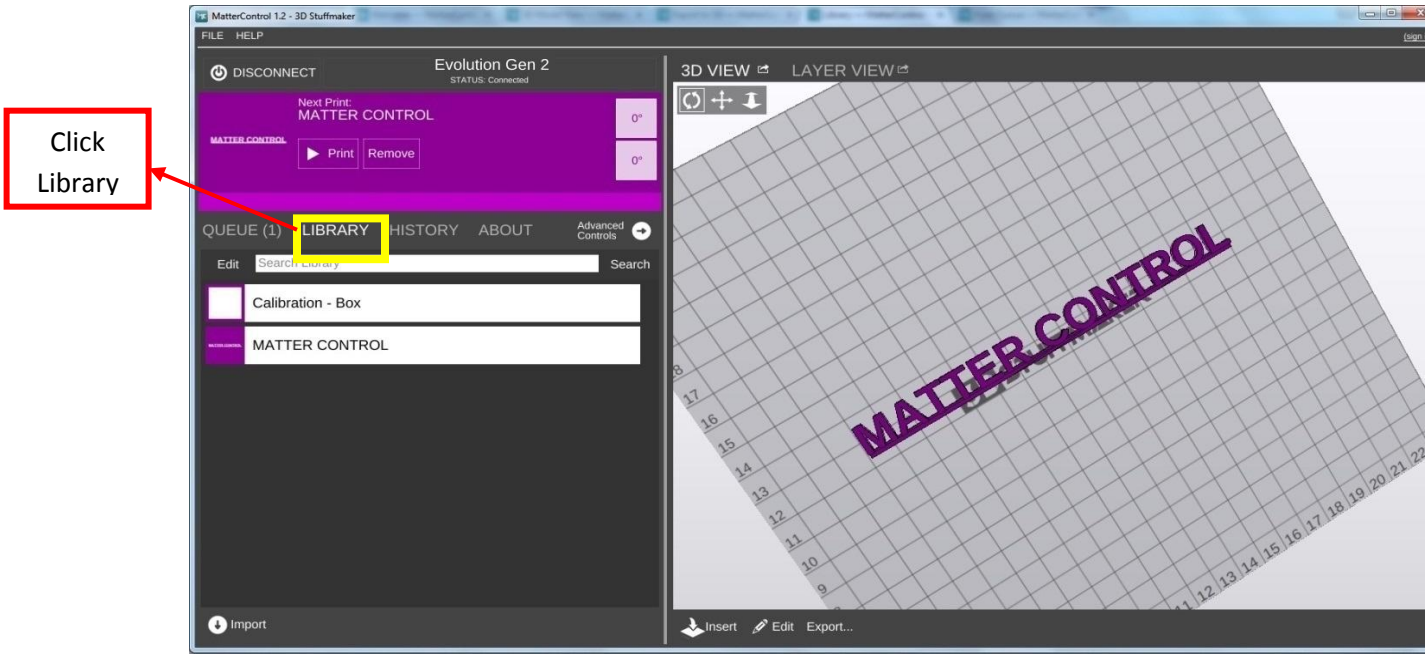


The file can now be found in the **Library.**



12.Library

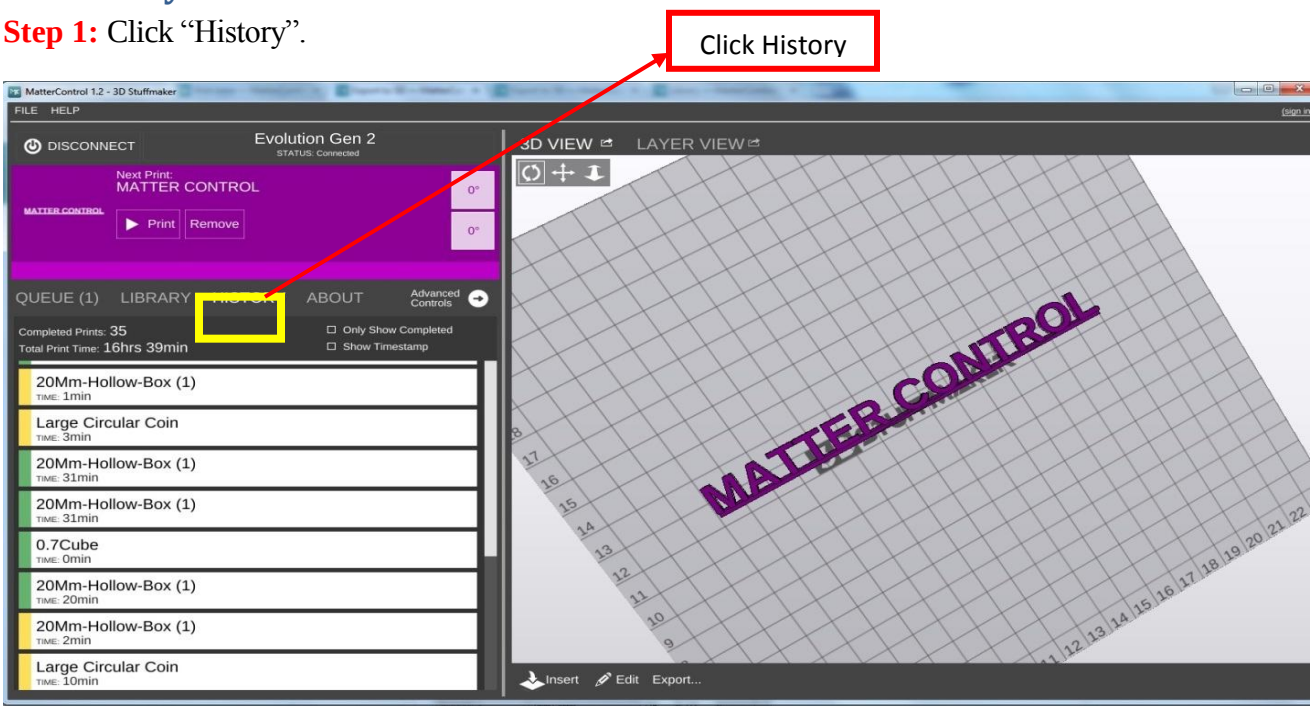
Step 1: Click "Library".



✓ It is a space to import and store printable designs.

13.History

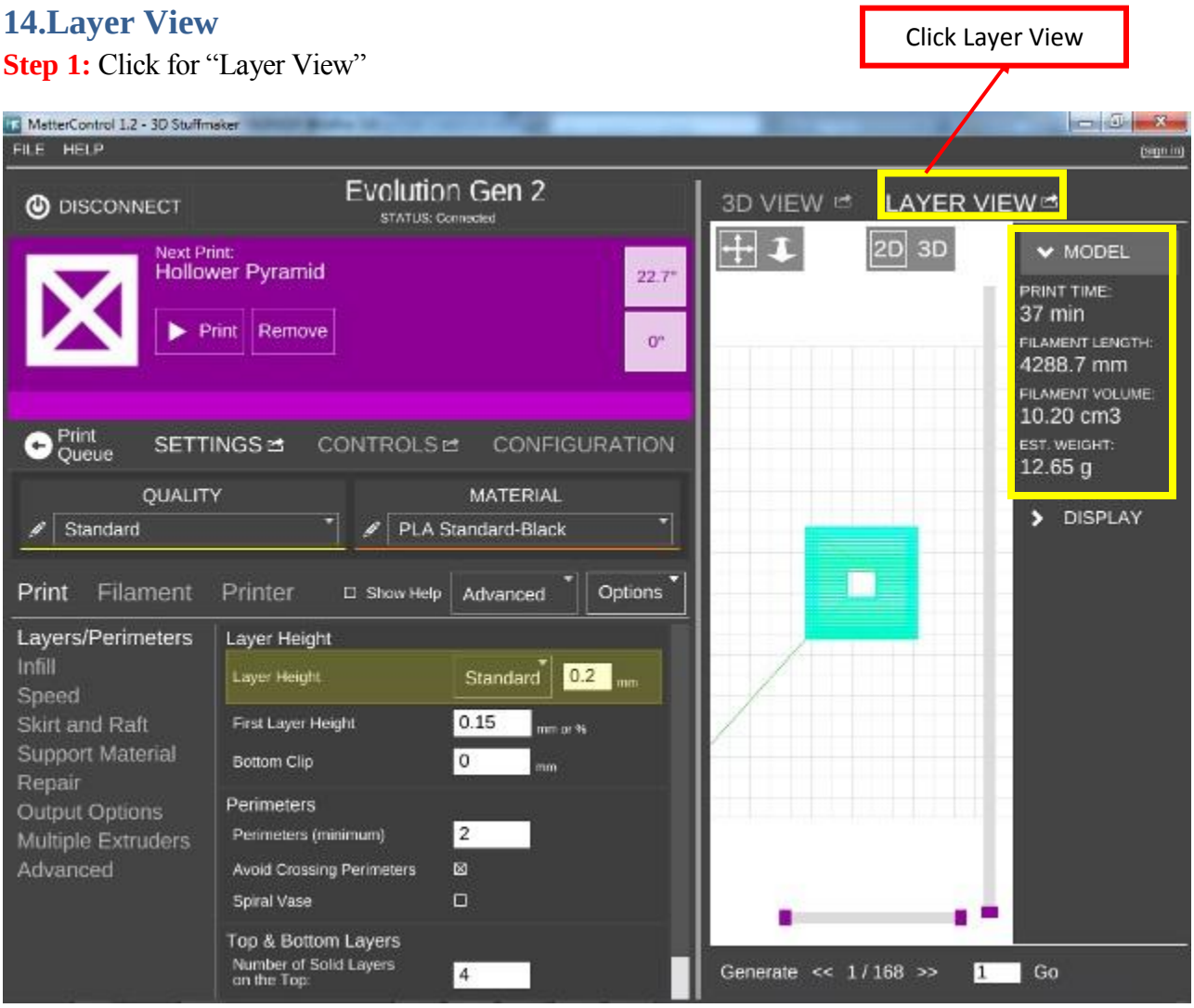
Step 1: Click "History".



✓ It displays the prints taken.

14.Layer View

Step 1: Click for "Layer View"

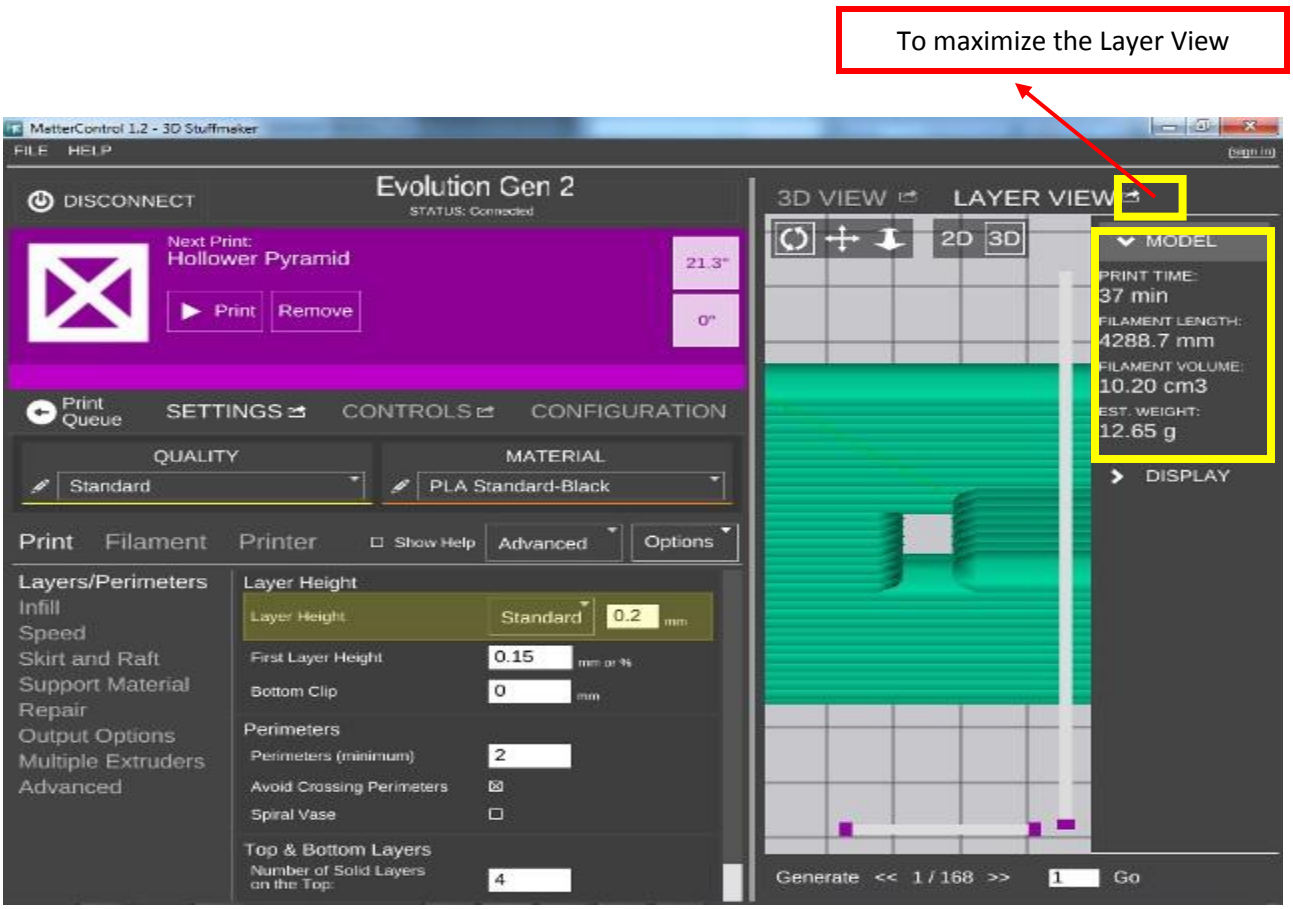


14.1 Model

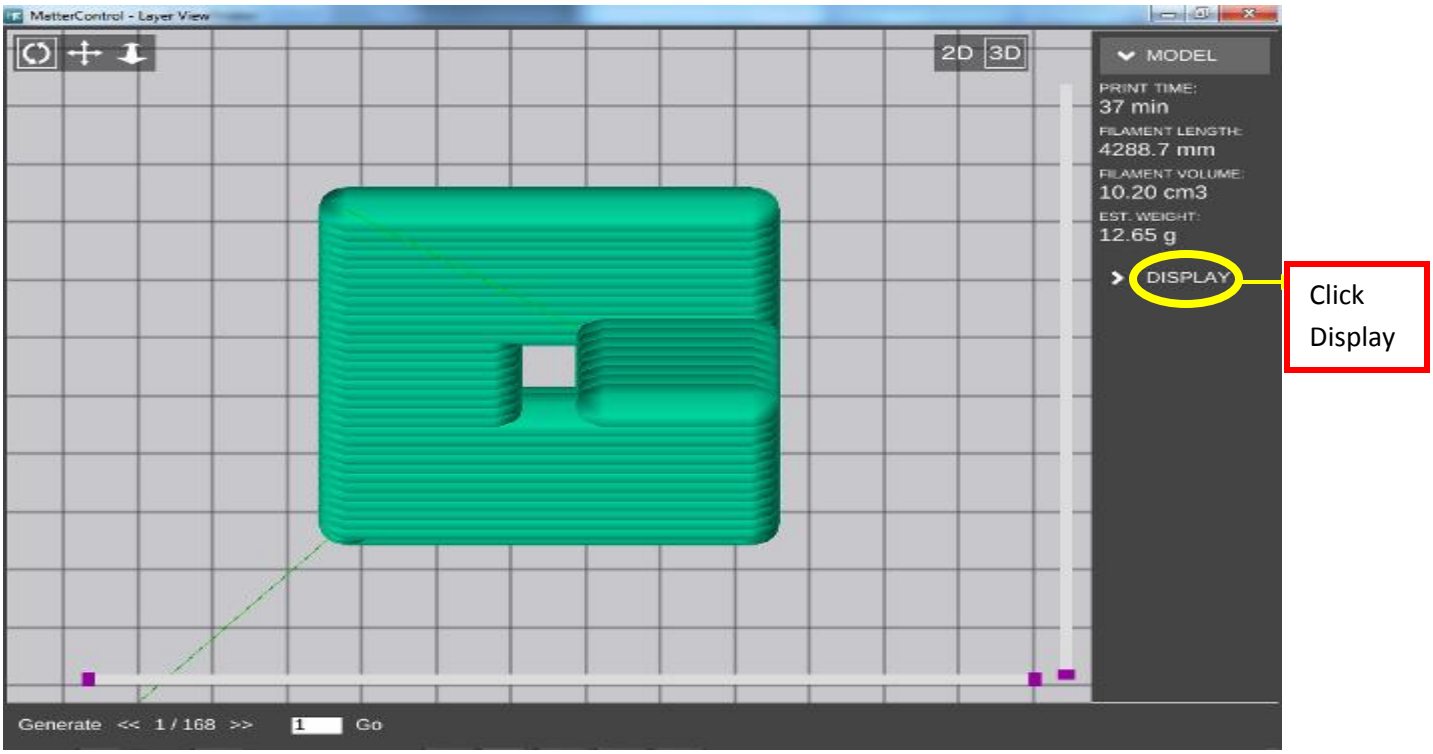
Step 1: Under Model,

- "Print Time
- Filament Length
- Filament Volume
- Est Weight" (Estimated Weight)

Check the below image for reference :



Step 2: To view the layers properly can maximize as shown below.

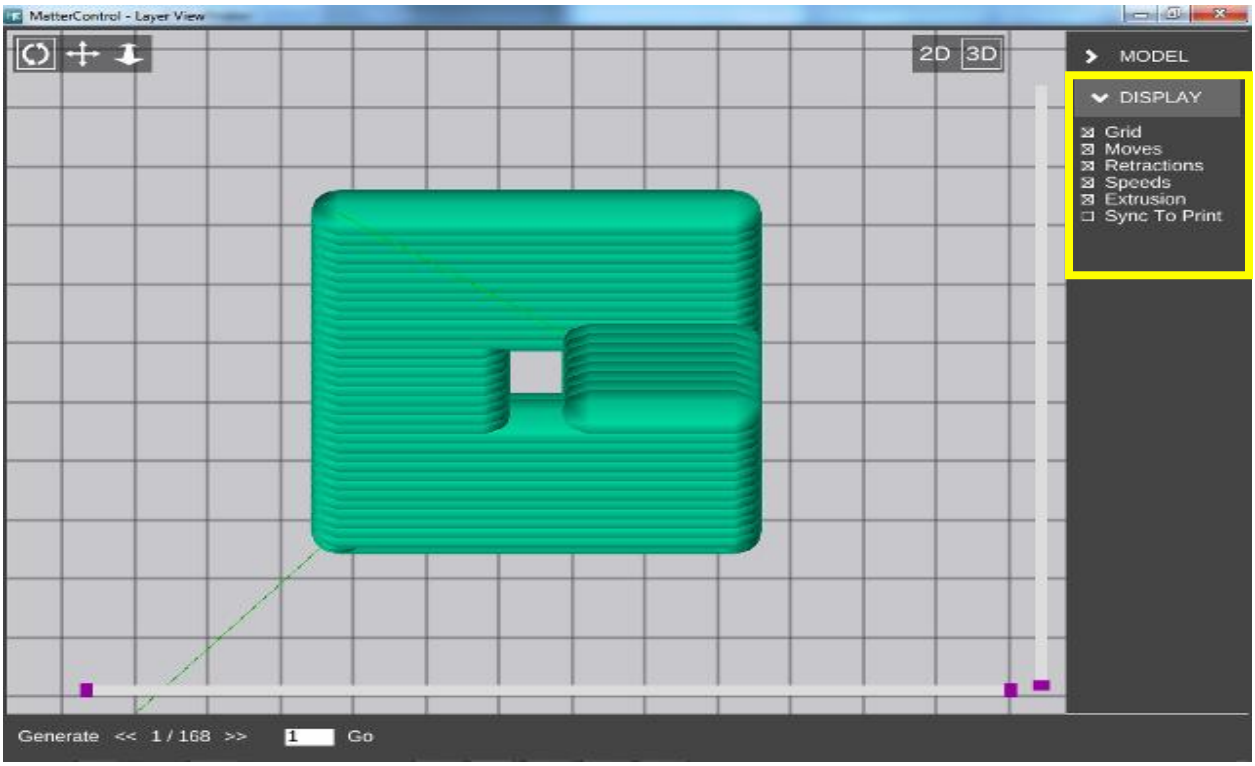


14.2 Display

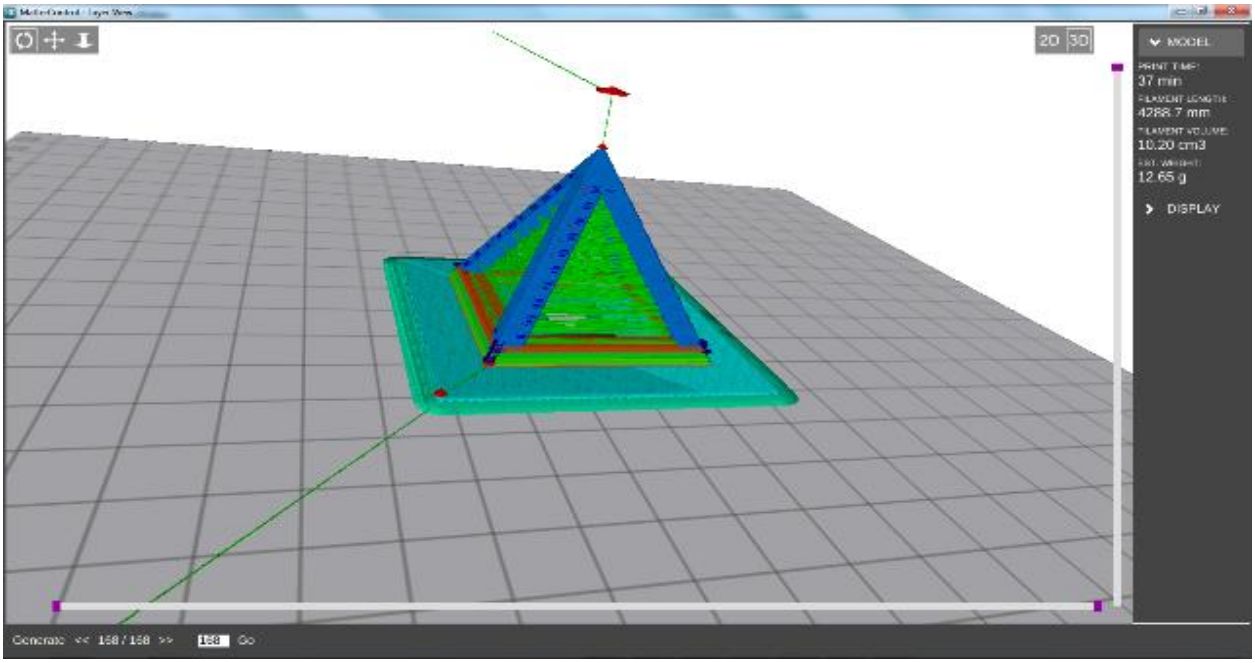
Step 1: Under Display,

- Grid
- Moves
- Retraction
- Speed
- Extrusion
- Sync to Print

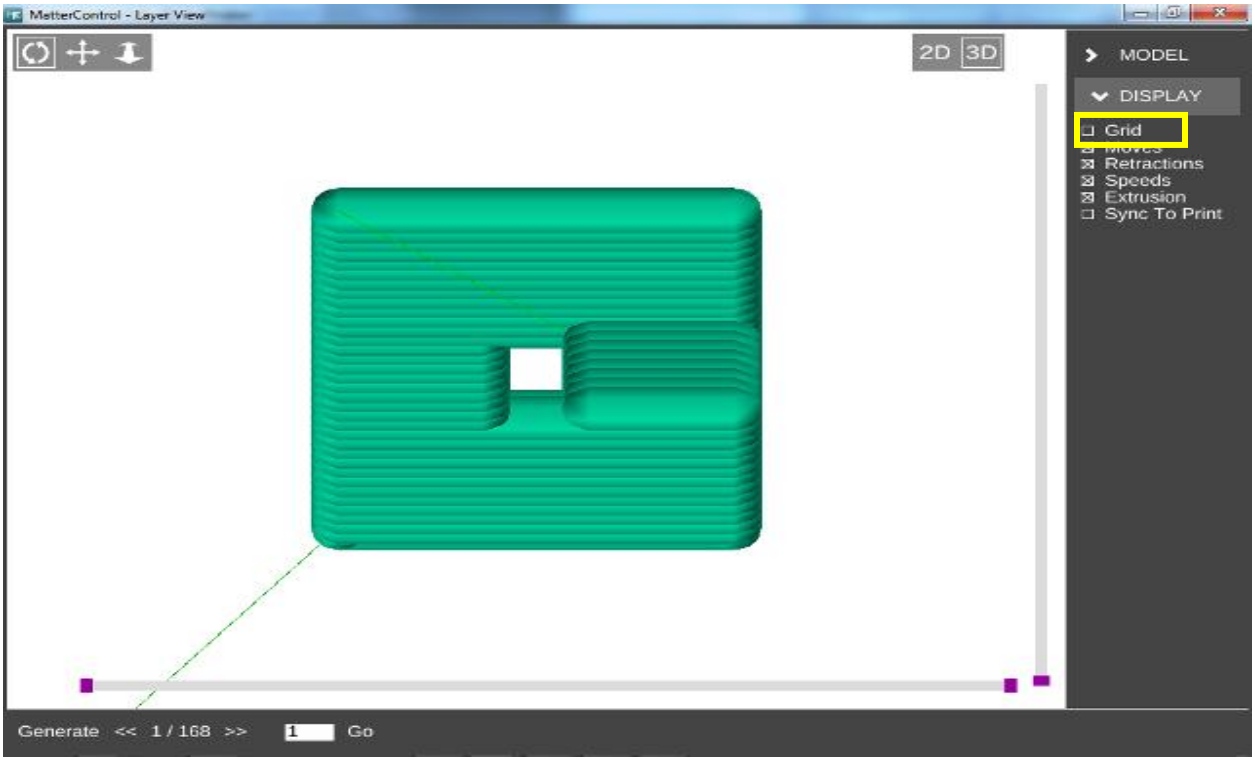
Check the below image for reference :



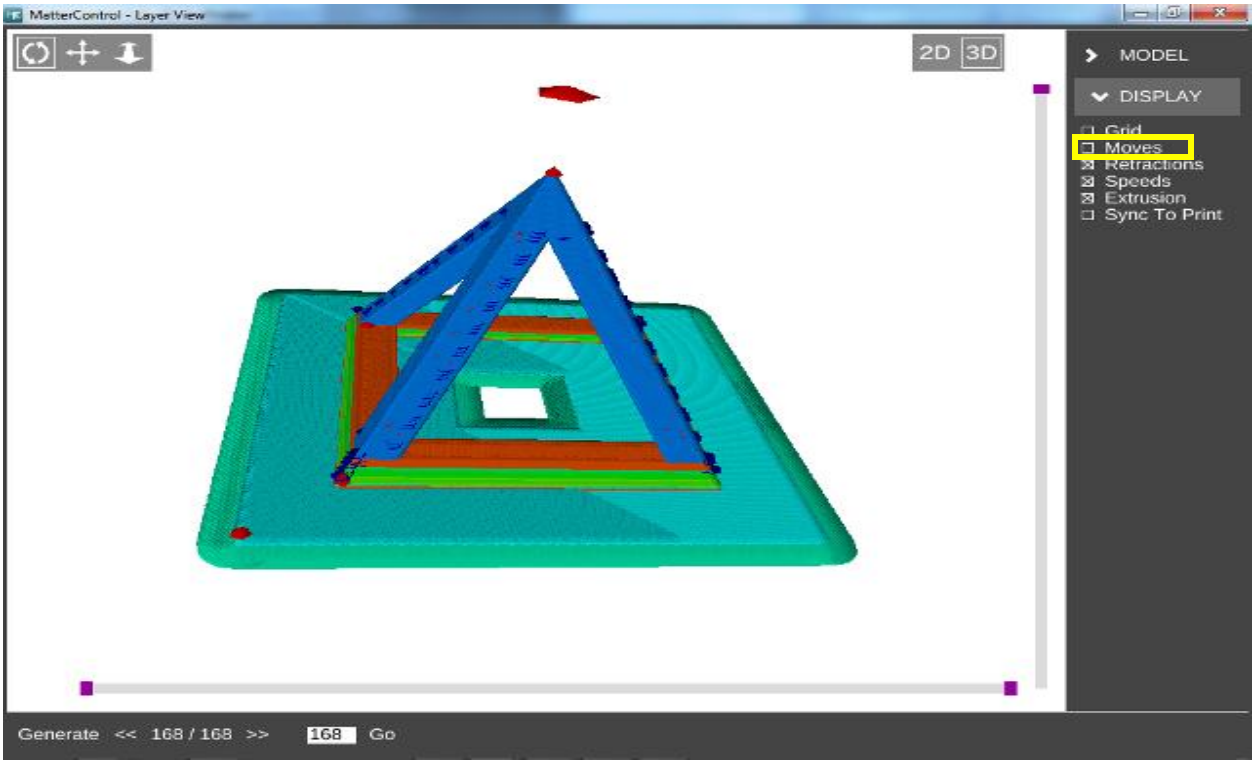
Step 2: Now the object can be viewed fully by clicking arrow key. (Up & Down)



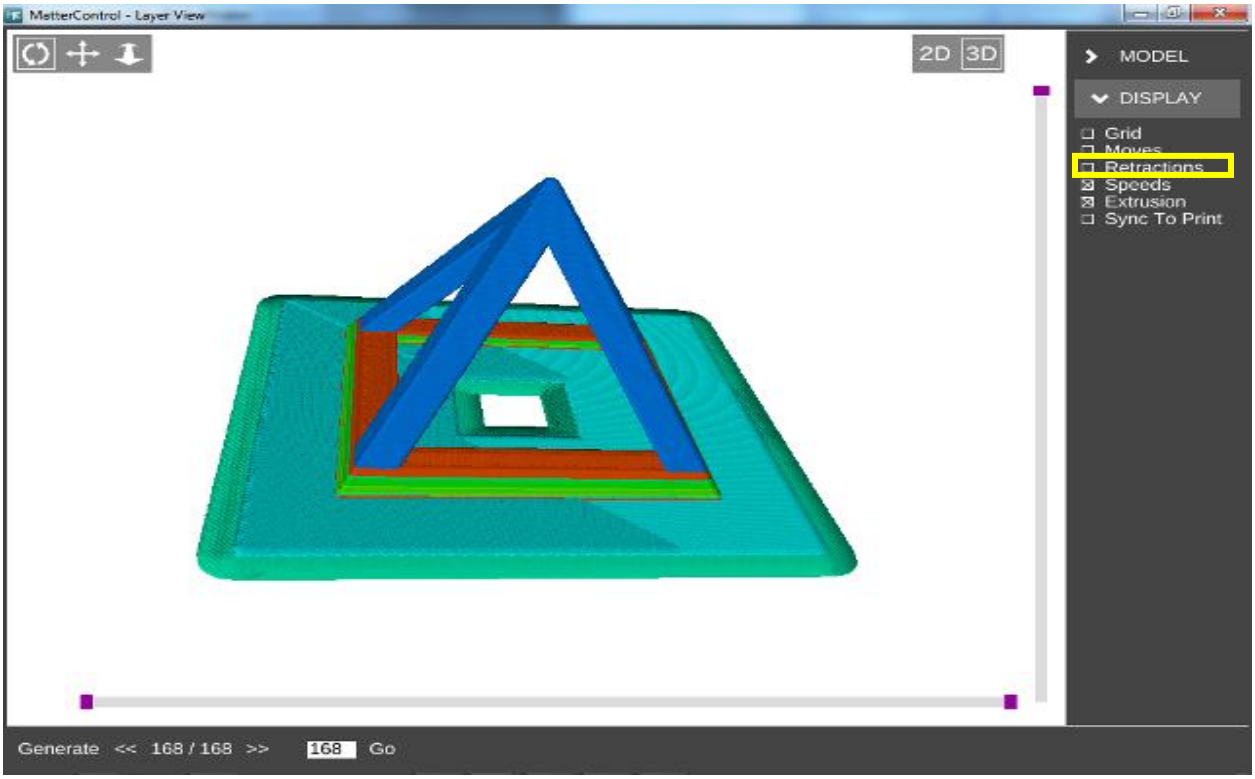
Step 3: Now the "Grid" is disabled and view the difference in below picture.



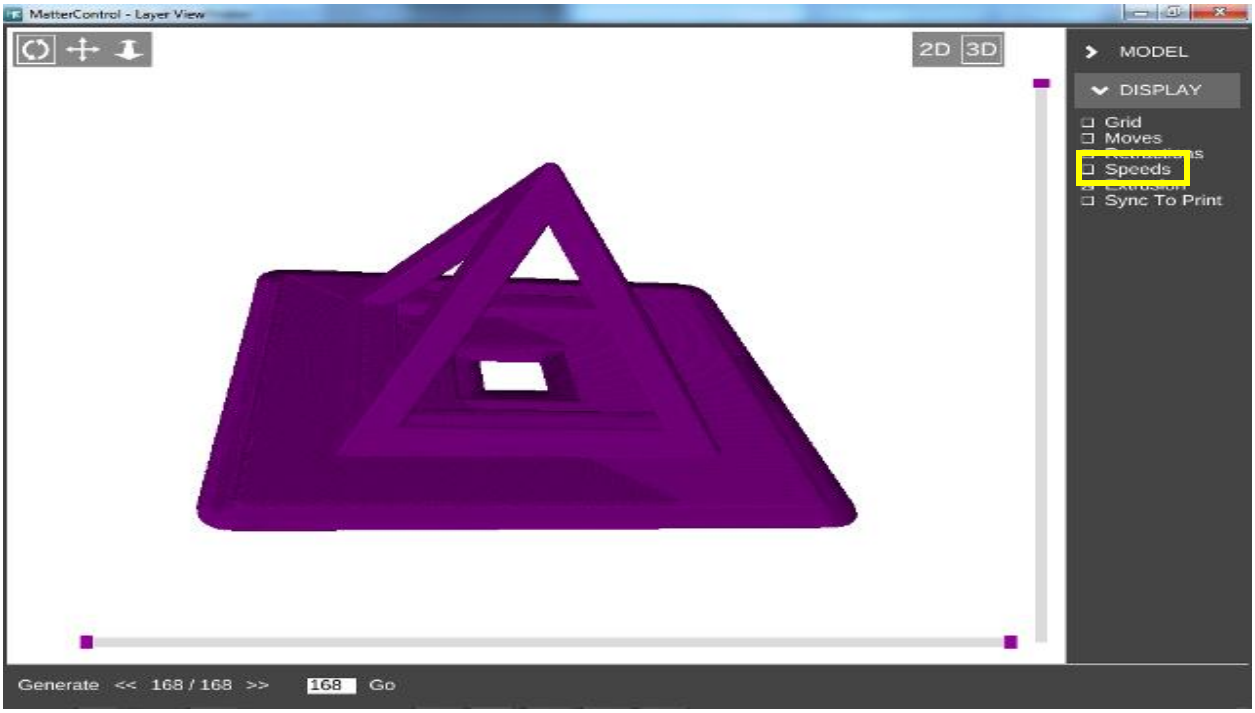
Step 4: Now the "Moves" is disabled.



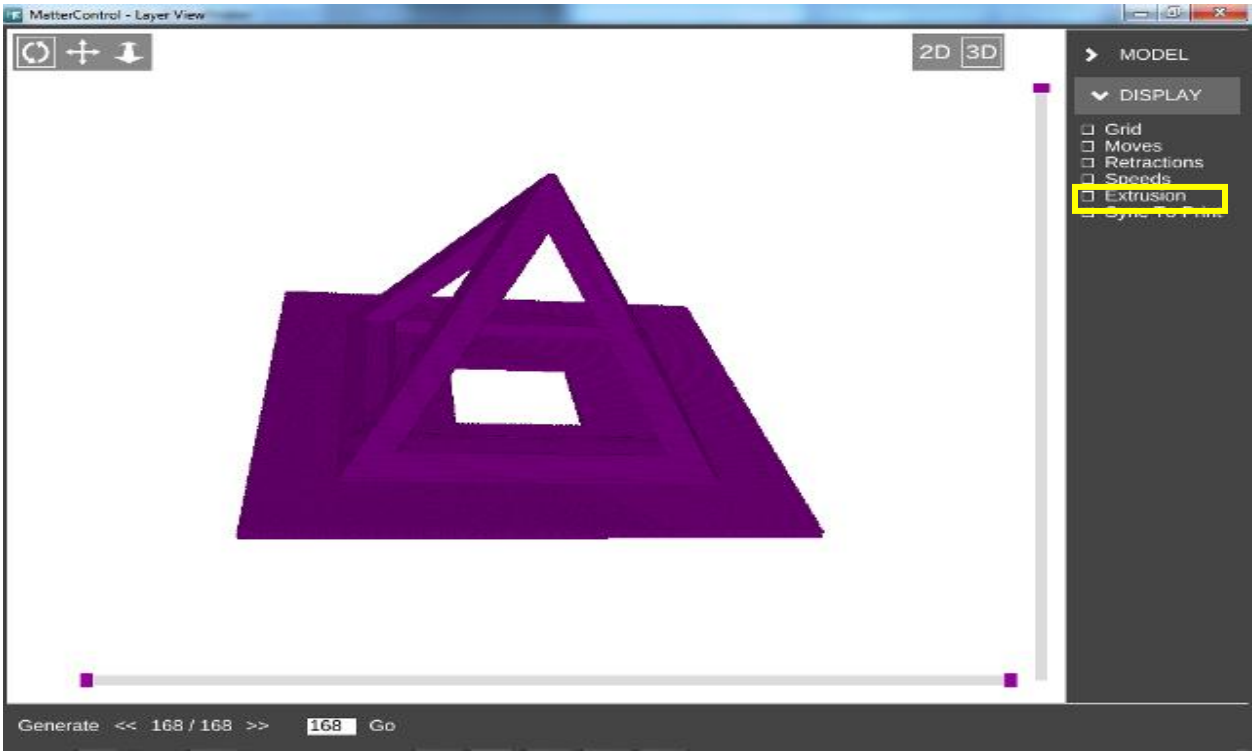
Step 5: Now the "Retraction" is disabled.



Step 6: Now the "Speed" is disabled.



Step 7: Now the "Extrusion" is disabled

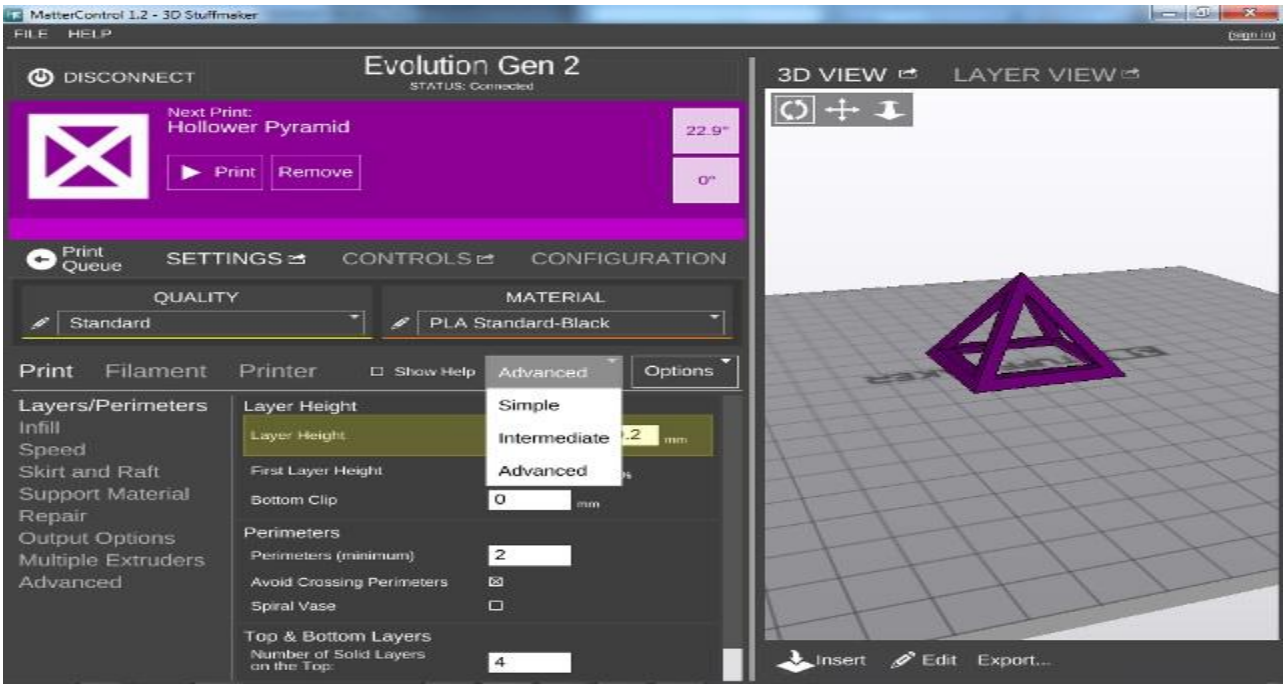


Step 8: Sync to Print" refers Nozzle Moves while printing.

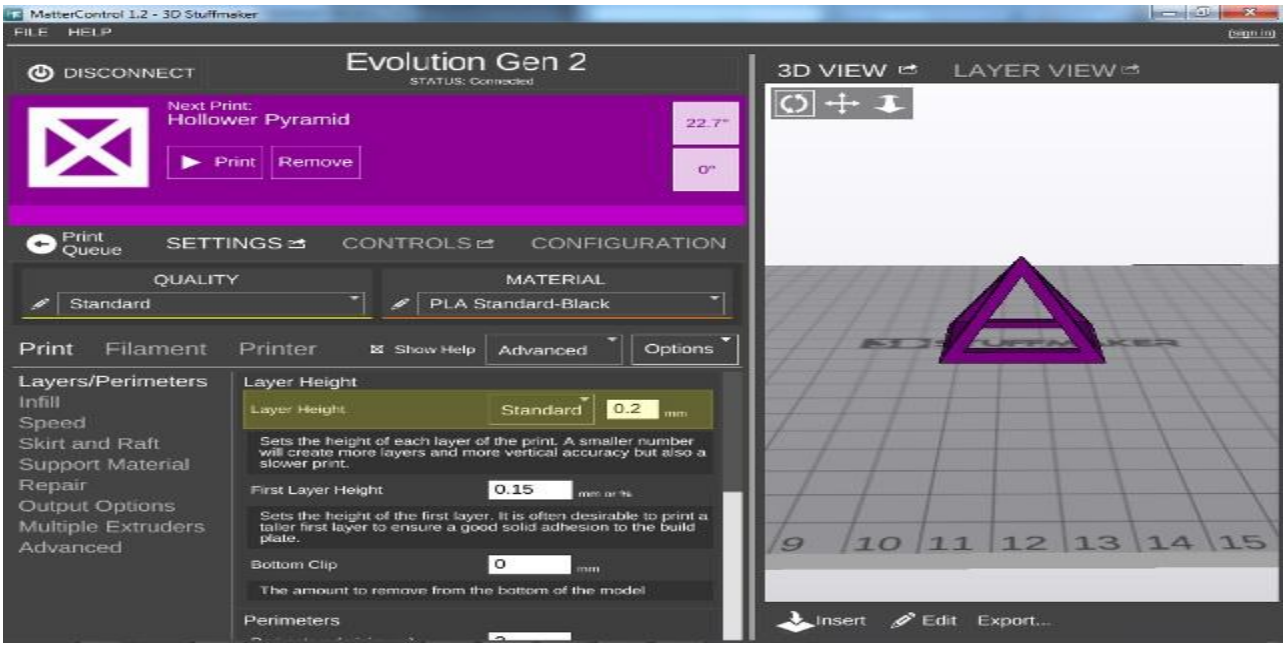
15. Printing the Object

Step 1: For Printing,

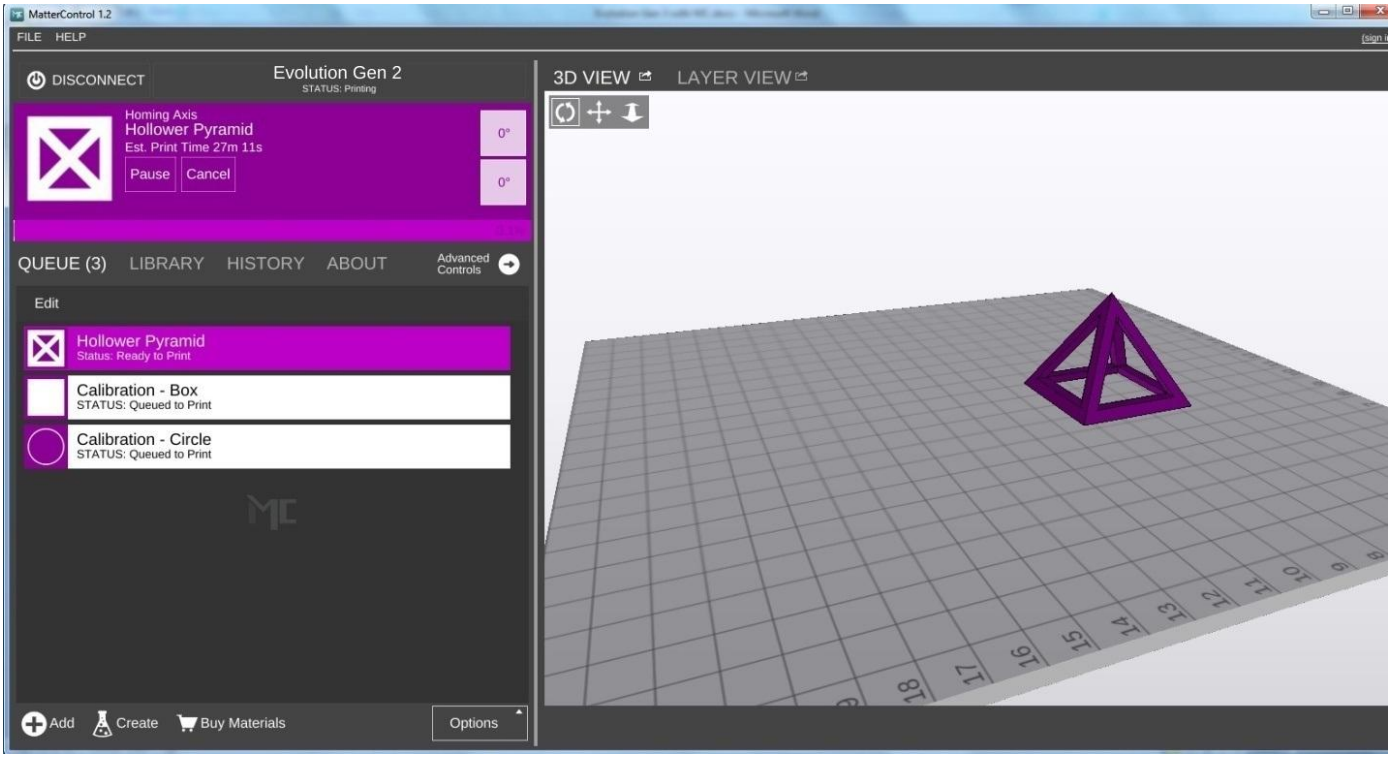
- Simple
- Intermediate
- Advanced



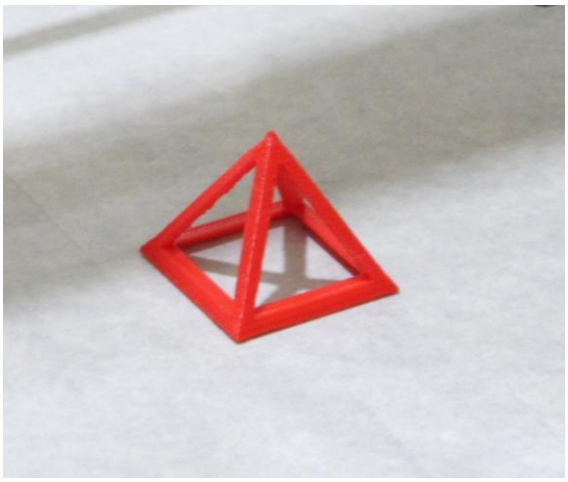
Step 2: Now "Advanced" is selected.



Step 3: Click "Print" and now the print is running.

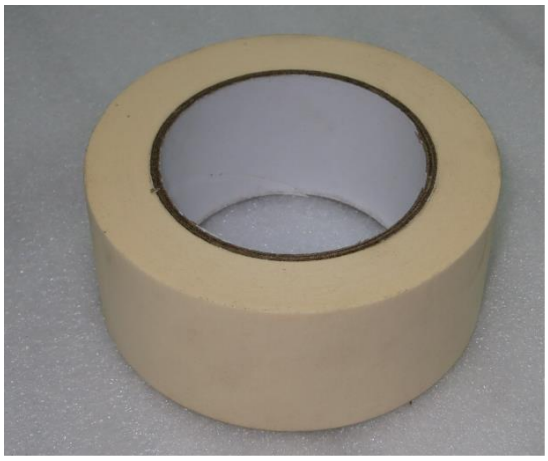


Step 4: Print is completed.



5.1 Fixing Surface protective tape

A layer of "Surface protective tape" is covered over the Print platform. Using surface protective tape as a platform surface, increases adhesion between the object and the build platform.



Step 1: Take Print plate and apply "Surface Protective tape" and at the corner "Capton Tape" one side of print plate only.

Step 2: Use fingers and press tape against print plate to avoid air bubbles in between Surface protective tape and Print plate.

Step 3: Finish of edges with your fingers and use knife to cut off the holes, where screws to be fitted.

Maintenance Tips

Axis Lubrication

Regular lubrication of the X, Y and Z Axis is important for the longevit y and smooth running of your printer. These axis should always move without much resistance and should move under it's own weight by gravity. The rods can be lubricated with oil or grease. Ideally bearing grease should be used (from a local auto supplier) and apply generously to both the X Axis and Y Axis.

In terms of frequency, this will depend on how heavily you are using the printer, but as a general rule, the axis's should never be "dry" to touch, they should be lightly lubricated.

When lubricating the axis it is also recommended to rotate the axis slightly to prevent bearing wear on the rod itself. Do this by loosening the bar clamps and rotating the rod slightly.

Hot end / Nozzle

Keep your Hot End Nozzle clean, don't let molten plastic build up on it as this will cause issues when starting prints. It's easiest to keep it clean as you go, by using tweezers to remove excess plastic in between printing and not letting it stick to the nozzle.

Visually ensure wiring and connections haven't moved and are still located in their correct positions, pay special attention to the hot end thermistor, if this moves away from the hot end heater block it will result in the electronics applying more power to the hot end to maintain it at a higher temperature as an offset to the thermistor being further away, this could result in the electronics cutting the power to the hot end as too much current is drawn. This would then result in the hot end cooling mid print, and then the filament will grind out in the extruder and you will need to reload the extruder and start the print again.

Nuts & Bolts

Check the nuts and washers across the printer to ensure they are still tight and haven't worked loose, as the printer move's and vibrates a lot, it is prudent to check these regularly. It is important they don't work loose as it can affect the geometry and stability of the 3D Printer.

Electronics

Always keep the electronics in an open, ventilated area, located in such away that you're not going to drop any conductive debris on them (such as nuts & washers etc).

Regularly check that the pc header connectors on the Ramps board haven't worked loose or become disconnected, especially the Endstop and thermistor connections. Every so often, check all of the slotted screw terminals on the the associated power connections on the PC board and tighten them where necessary. Make sure the connectors on the endstops are still homed tight and in position.

Grub screws and belt tension

Make sure that the grub screws holding the X & Y Pulleys and the Extruder Drive Gear are tight and that the pulleys never/ can't slip.Over time and the more you use your 3d printer the X and Y timing belts will loosen slightly, so you need to check their tensions and tighten them if they have become loose or looser

Build surface

Make sure you keep your build surface, clean, dry and free of oil/grease. When printing in PLA, on unheated build platform, cover your platform with Kapton tape. Kapton tape is the best for covering the platform because it can withstand the heating and cooling of the platform.

You can also use paint masking tape for larger print. Using masking tape as a platform surface, increases adhesion between the object and the build platform. Simply cover the platform with a layer of blue masking tape and print onto the tape. (Submerge the print plate in water and the
3Dprint comes off neatly).

- Regularly clean your build platform.
- Replace the tape when it wears out.
- Whichever platform preparation method you use, the factor that most reduce the risk of warping on large prints is ensuring that the platform is well leveled.
- Platform requires cleaning after a few prints to get it back to a smooth surface. Simply peel off the tape easily
- Know the plastic with which you are printing. Each plastic has its own characteristics, like melting temperature and extruding speed. Make sure your printer's profile is right for the plastic you are using.

TROUBLESHOOTING

Problem	**Solution**
No Power	1. Verify Power cord is securely plugged in. 2. Verify AC Power is present at wall outlet.
Cannot communicate with printer	1. Make sure the USB cable is connected to the printer, and to the PC 2. Unplug the USB cable, then plug in again. 3. Check whether Power is on. 4. Check in device manager, that 3DPrinter driver is detected.
Printing material not Extruding	1. Material is stuck in the extruder. 2. Check whether target temperature is reached 3. Verify the extruder tubes are free of dust 4. Both ends of extruder tube is connected properly
Power cord specification	12 Volts 5 Amps

Problem	**Solution**
Use of Silcone Grease	You can use it in rods for smoother movement.
Power cord specification	12 Volts 5 Amps
Common issues for error in stl files	Reversed normal's / Bad edges / Holes in the mesh / Noise shells / Self intersection of faces or edges causes slic3r crash
Can't write to printer	Check the USB cable and power cord, loose connection may cause this problem. Ensure that you are using the 12V 5amps power supply
Others	Contact technical support team : support@3dstuffmakers.com